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102D CONGRESS
1st Session
HOUSE OF REPRESENTATIVES
REPORT
102-134

AMERICAN TECHNOLOGY PREEMINENCE ACT OF 1991

JUNE 26, 1991.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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Mr. BROWN of California, from the Committee on Science, Space, and Technology, submitted the following

REPORT

together with

ADDITIONAL AND DISSENTING VIEWS

[To accompany H.R. 1989]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 1989) to authorize appropriations for the National Institute of Standards and Technology and the Technology Administration of the Department of Commerce, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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I. Committee Amendment

The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "American Technology Preeminence Act of 1991".

TITLE I—DEPARTMENT OF COMMERCE RESEARCH AND TECHNOLOGY

SEC. 101. SHORT TITLE.

This title may be cited as the "Technology Administration Authorization Act of 1991".

SEC. 102. STATEMENT OF POLICY.

Congress finds that in order to help United States industries to speed the development of new products and processes so as to maintain the economic competitiveness of the Nation, it is necessary to strengthen the programs and activities of the Department of Commerce's Technology Administration and National Institute of Standards and Technology.

SEC. 103. TECHNOLOGY ADMINISTRATION.

(a) FISCAL YEAR 1991.—There are authorized to be appropriated to the Secretary of Commerce (hereafter in this Act referred to as the "Secretary"), to carry out the activities of the Under Secretary for Technology (hereafter in this Act referred to as the "Under Secretary") and the Assistant Secretary for Technology Policy, $6,500,000 for fiscal year 1991, which shall be available for the following line items:

(1) Office of the Under Secretary, $1,300,000.

(2) Technology Policy, $2,700,000.

(3) Japanese Technical Literature, $1,000,000.

(4) Clearinghouse on State and Local Initiatives on Productivity, Technology, and Innovation, $1,000,000.

(5) National Technical Information Service, $500,000 to carry out the modernization plan described in section 212(f)(3)(D) of the National Technical Information Act of 1988 (15 U.S.C. 3740b(f)(3)(D)).

(b) FISCAL YEAR 1992.—There are authorized to be appropriated to the Secretary, to carry out the activities of the Under Secretary and the Assistant Secretary for Technology Policy, $10,000,000 for fiscal year 1992, which shall be available for the following line items:

(1) Office of the Under Secretary, $2,000,000.

(2) Technology Policy, $4,000,000.

(3) Japanese Technical Literature, $1,500,000.

(4) Clearinghouse on State and Local Initiatives on Productivity, Technology, and Innovation, $1,000,000.

(5) National Technical Information Service, $1,500,000 to carry out the modernization plan described in section 212(f)(3)(D) of the National Technical Information Act of 1988 (15 U.S.C. 3704(f)(3)(D)).

(c) OPERATING COSTS.—Operating costs for the National Technical Informatio Service associated with the acquisition, processing, storage, bibliographic control, and archiving of information and documents shall be recovered primarily through the collection of fees.

(d) REPORT AND CERTIFICATION TO CONGRESS.—Within 90 days after the date of enactment of this Act, the Secretary of Commerce shall submit to Congress a report which—

(1) describes the Department of Commerce's response to the Inspector General's Report No. ATD–024–0–001;

(2) includes a revised detailed modernization plan for the National Technical Information Service;

(3) contains a business plan for the National Technical Information Service which includes detailed profit and loss analysis for groups of products and services and for major market segments; and

(4) certifies that the National Technical Information Service has—

(A) employed a chief financial officer who is a certified public accountant with experience in the dissemination of scientific and technical information; and

(B) begun taking reasonable steps toward strengthening its accounting system in response to the Inspector General's report described in paragraph (1).

(e) TECHNICAL AMENDMENT.—Section 5422(a) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 4603a(a)) and section 273(c)(4) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (15 U.S.C. 4603(c)(4)) are each amended by striking "Economic Affairs" and inserting in lieu thereof "Technology".

SEC. 104. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

(a) FISCAL YEAR 1991.—(1) There are authorized to be appropriated to the Secretary, to carry out the intramural scientific and technical research and services activities of the National Institute of Standards and Technology (hereafter in this Act referred to as the "Institute"), $166,228,000 for fiscal year 1991, which shall be available for the following line items:

(A) Electronics and Electrical Measurements, $21,273,000.
(B) Manufacturing Engineering, $8,266,000.
(C) Chemical Science and Technology, $18,617,000.
(D) Physics, $25,522,000.
(E) Materials Science and Engineering, $26,495,000.
(F) Building and Fire Research, $9,821,000.
(G) Computer Systems, $11,819,000.
(H) Applied Mathematics and Scientific Computing, $5,847,000.
(I) Technology Assistance, $8,978,000.
(J) Research Support Activities, $29,590,000.

(2)(A) Of the total of the amounts authorized under paragraph (1), $2,000,000 are authorized only for steel technology.

(B) Of the amount authorized under paragraph (1)(1)—

(i) $150,000 are authorized only for the evaluation of nonenergy-related inventions and related technology extension activities;

(ii) $250,000 are authorized only for Institute participation in the pilot program established under subsection (e); and

(iii) $1,700,000 are authorized only for the Institute's management of the extramural funding programs authorized under section 105.

(C) Of the total amount authorized under paragraph (1)(J), $7,223,000 are authorized only for the technical competence fund.

(b) FISCAL YEAR 1992.—(1) There are authorized to be appropriated to the Secretary, to carry out the intramural scientific and technical research and services activities of the Institute, $210,000,000 for fiscal year 1992, which shall be available for the following line items:

(A) Electronics and Electrical Measurements, $33,700,000.
(B) Manufacturing Engineering, $13,500,000.
(C) Chemical Science and Technology, $22,000,000.
(D) Physics, $27,000,000.
(E) Materials Science and Engineering, 30,000,000.
(F) Building and Fire Research, $12,300,000.
(G) Computer Systems, $16,000,000.
(H) Applied Mathematics and Scientific Computing, $6,500,000.
(I) Technology Assistance, $11,000,000.
(J) Research Support Activities, $38,000,000.

(2)A) Of the total of the amounts authorized under paragraph (1), $2,000,000 are authorized only for steel techology.

(B) Of the amount authorized under paragraph (1)(I)—

(i) $500,000 are authorized only for the evaluation of nonenergy-related inventions and related technology extension activities;

(ii) $250,000 are authorized only for Institute participation in the pilot program established under subsection (e); and

(iii) $2,700,000 are authorized only for the Institute's management of the extramual funding programs authorized under section 105.

(C) Of the total amount authorized under paragraph (1)(J), $7,565,000 are authorized only for the technical competence fund.

(c) TRANSFERS.—(1) Funds may be transferred among the line items listed in subsection (a)(1) and among the line items listed in subsection (b)(1), so long as the net funds transferred to or from any line item do not exceed 10 percent of the amount authorized for that line item in such subsection and the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives are notified in advance of any such transfer.

(2) The Secretary may propose transfers to or from any line item listed in subsection (a)(1) or subsection (b)(1) exceeding 10 percent of the amount authorized for such line item, but such proposed transfer may not be made unless—

(A) a full and complete explanation of any such proposed transfer and the reason therefor are transmitted in writing to the Speaker of the House of Representatives, the President of the Senate, and the appropriate authorizing Committees of the House of Representatives and the Senate, and

(B) 30 calendar days have passed following the transmission of such written explanation.

(d) RELATION TO OTHER AUTHORIZATIONS.—Except for authorizations provided in the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418; 102 Stat. 1448) and the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (15 U.S.C. 5101 et seq.), this Act contains the complete authorizations of appropriations for the Institute for fiscal year 1992.

(e) PILOT PROGRAM.—Pursuant to the authorizations contained in subsections (a)(1)(I) and (b)(1)(I), the Secretary is authorized to pay the Federal share of the cost of establishing and carrying out a pilot program under section 112 of the National Institute of Standards and Technology Authorization Act for Fiscal Year 1989 (15 U.S.C. 272 note). The purpose of the pilot program is to assist a country or countries that have requested assistance from the United States in the development of comprehensive industrial standards by providing the continuous presence of United States personnel on-site for a period of 2 or more years to provide such assistance and by providing, as necessary, additional technical support from within the Institute. Such funds shall be made available for such purpose only to the extent that matching funds are received by the National Institute of Standards and Technology from sources outside the Federal Government.

(f) CONSTRUCTION FACILITIES.—Section 14 of the National Institute of Standards and Technology Act (15 U.S.C. 278d) is amended by striking "herein:" and all that follows, and inserting in lieu thereof "herein.".

(g) FIRE AND BUILDING PROGRAMS.—The fire research and building technology programs of the Institute shall be combined for administrative purposes only, and separate budget accounts for fire research and building technology shall be maintained. No later than December 31, 1991, the Secretary, acting through the Director of the Institute, shall report to Congress on the results of the combination, on efforts to preserve the integrity of the fire research and building technology programs, on the long-range basic and applied research plans of the two programs, on procedures for receiving advice on fire and earthquake research priorities from constituencies concerned with public safety, and on the relation between the combined program at the Institute and the United States Fire Administration.

(h) AIRCRAFT FIRE RESEARCH.—(1) The Secretary, acting through the Director of the Institute, and the Administrator of the Federal Aviation Administration shall jointly prepare a plan for a research program to develop the fire technology and materials necessary for the development of an all fire resistant aircraft cabin interior. Such plan shall include funding requirements, a brief description of the necessary research projects, and a schedule for completion of each such research project, and shall be submitted to the Congress within 1 year after the date of enactment of this Act.

(2) Subject to the availability of appropriations, the Secretary, acting through the Director of the Institute, and the Administrator of the Federal Aviation Administration shall jointly carry out the research program described in the plan prepared under paragraph (1).

(i) EDUCATIONAL PROGRAMS.—(1) Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-1)) is amended by striking the period at the end of the first sentence and inserting in lieu thereof ", and to the United States citizens for research and technical activities on Institute programs.".

(2) Section 17 of the National Institute of Standards and Technology Act (15 U.S.C. 278g) is amended by adding at the end the following new subsection:

"(d) For any scientific and engineering disciplines for which there is a shortage of suitably qualified and available United States citizens and nationals, the Secretary is authorized to recruit and employ in scientific and engineering fields at the Institute foreign nationals who have been lawfully admitted to the United States for permanent residence under the Immigration and Nationality Act and who intend to become United States citizens. Employment of a person under this paragraph shall not be subject to the provisions of title 5, United States Code, governing employment in this competitive service, or to any prohibition in any other Act against the employment of aliens, or against the payment of compensation to them.".

SEC. 105. EXTRAMURAL PROGRAMS OF THE INSTITUTE.

(a) FISCAL YEAR 1991.—In addition to any sums otherwise authorized under this Act, there are authorized to be appropriated to the Secretary, to carry out the extramural industrial technology services programs of the Institute created under sections 25, 26, and 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278k, 278i, and 278n), $117,000,000 for fiscal year 1991, which shall be available for the following line items:

(1) Regional Centers for the Transfer of Manufacturing Technology, $15,000,000.

(2) State Technology Extension Program (carried out under section 5121(d) of the Omnibus Trade and Competitiveness Act of 1988), $2,000,000.

(3) Advanced Technology Programs, $100,000,000.

(b) FISCAL YEAR 1992.—In addition to any sums otherwise authorized under this Act, there are authorized to be appropriated to the Secretary, to carry out the extramural industrial technology services programs for the Institute careated uder sections 25, 26, and 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278k, 278i, and 178n), and to carry out section 106 of this Act, $127,500,000 for fiscal year 1992, which shall be available for the following items:

(1) Regional Centers for the Transfer of Manufacturing Technology, $25,000,000.

(2) State Technology Extension Program, $2,500,000.

(3) Advanced Technology Program, $90,000,000.

(4) Subsidy for technology commercialization loans under section 106 of this Act, $10,000,000.

(c) LIMITATION.—No funds are authorized under this section for any project under the extramural programs of the Institute which have not been competitively reviewed through the merit review processes required by the National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.).

(d) AMENDMENTS TO EXTENSION PROGRAM.—Section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 2781 note) is amended by striking paragraph (5).

(e) ADVISORY COMMITTEE.—Section 5142(f) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 4632(f)) is amended by striking "and 1990" and inserting in lieu thereof "1990, 1991, and 1992".

SEC. 106. TECHNOLOGY COMMERCIALIZATION LOANS.

The Secretary, acting through the Director of the Institute, may make loans, to the extent provided in section 504(b) of the Congressional Budget Act of 1974, to small and medium size businesses eligible for assistance under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n). Loans under this section may be made to support research and development on, and the demonstration of the commercial feasibility of, advanced technologies and products in fields such as automation, electronics, advanced materials, biotechnology, and optical technologies. Loans under this section shall be made at an interest rate equal to the Government borrowing rate plus an insurance surcharge of up to 2 percent.

SEC. 107. SALARY ADJUSTMENTS.

In addition to any sums otherwise authorized by this Act, there are authorized to be appropriated to the Secretary for fiscal years 1991 and 1992 such additional sums as may be necessary to make any adjustments in salary, pay, retirement, and other employee benefits which may be provided for by law.

SEC. 108. METRIC AMENDMENTS.

(a) The Fair Packaging and Labeling Act (15 U.S.C. 1451 et seq.) is amended—

(1) in sections 4(a)(2), (4), and (5), 4(b), and 5(c)(1), by striking "weight" and inserting in lieu thereof "mass";

(2) in sections 4(a)(5) and (5)(d), by striking "weights" and inserting in lieu thereof "masses";

(3) in section 4(a)(2), by inserting ", using the most appropriate units of the SI metric system as the primary system for measuring quantity" after "panel of that label"; and

(4) in section 4(a)(3)(A)—

(A) by striking "containing" and inserting in lieu thereof "that also displays the avoirdupois system of measure, and that contains" in clause (i);

(B) by inserting "that also displays the avoirdupois system of measure" after "random package" in clause (ii);

(C) by inserting "that also displays the avoirdupois system of measure" after "linear measure" in clause (iii); and

(D) by inserting "that also displays the avoirdupois system of measure" after "measure of area" in clause (iv).

(b) This section shall take effect 2 years after the date of enactment of this Act.

SEC. 109. TRANSFER OF FEDERAL SCIENTIFIC AND TECHNICAL INFORMATION.

(a) TRANSFER.—The head of each Federal executive department or agency shall transfer in a timely manner to the National Technical Information Service unclassified scientific, technical, and engineering information which results from federally

funded research and development activities for dissemination to the private sector, academia, State and local governments, and Federal agencies. Only information which would otherwise be available for public dissemination shall be transferred under this subsection. Such information shall include technical reports and information, computer software, application assessments generated pursuant to section 11(c) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(c)), and information regarding training technology and other federally owned or originated technologies. The Secretary of Commerce shall issue regulations within one year after the date of enactment of this Act outlining procedures for the ongoing transfer of such information to the National Technical Information Service.

(b) ANNUAL REPORT TO CONGRESS.—As part of the annual report required under section 212(f)(3) of the National Technical Information Act of 1988, the Secretary of Commerce shall report to Congress on the status of efforts under this section to ensure access to Federal scientific and technical information by the public. Such report shall include—

(1) an evaluation of the comprehensiveness of transfers of information by each Federal executive department or agency under subsection (a);

(2) a description of the use of Federal scientific and technical information;

(3) plans for improving public access to Federal scientific and technical information; and

(4) recommendations for legislation necessary to improve public access to Federal scientific and technical information.

SEC. 110. AVAILABILITY OF APPROPRIATIONS.

Appropriations made under the authority provided in this Act shall remain available for obligation, for expenditure, or for obligation and expenditure for periods specified in the Acts making such appropriations.

SEC. 111. BUY-AMERICAN PROVISIONS.

(a) RESTRICTIONS ON CONTRACT AWARDS.—No contract or subcontract made with funds authorized under this title may be awarded for the procurement of an article, material, or supply produced or manufactured in a foreign country whose government unfairly maintains in government procurement a significant and persistent pattern or practice of discrimination against United States products or services which results in identifiable harms to United States businesses, as identified by the President pursuant to subsection (g)(1)(A) of section 305 of the Trade Agreements Act of 1979 (19 U.S.C. 2515(g)(1)(A). Any such determination shall be made in accordance with such section 305.

(b) PROHIBITION AGAINST FRAUDULENT USE OF "MADE IN AMERICA" LABELS.—If it has been finally determined by a court or a Federal agency that any person intentionally affixed a label bearing a "Made in America" inscription, or an inscription with the same meaning, to any product sold in or shipped to the United States that is not made in the United States, that person shall be ineligible to receive any contract or subcontract from the Department of Commerce, pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations.

(c) BUY-AMERICAN REQUIREMENT.—(1) The Secretary is authorized to award to a domestic firm a contract for the purchase of goods that, under the use of competitive procedures, would be awarded to a foreign firm, if—

(A) the final product of the domestic firm will be completely assembled in the United States;

(B) when completely assembled, more than 50 percent of the final product of the domestic firm will be domestically produced; and

(C) the difference between the bids submitted by the foreign and domestic firms is not more than 6 percent.

(2) This subsection shall not apply to the extent to which—

(A) in the opinion of the Secretary, after taking into consideration international obligations and trade relations, such applicability would not be in the public interest;

(B) in the opinion of the Secretary, after consultation with the Secretary of Defense, compelling national security considerations require otherwise; or

(C) the President determines that such an award would be in violation of the General Agreement on Tariffs and Trade or an international agreement to which the United States is a party.

(3) This subsection shall apply only to contracts made for which—

(A) amounts are authorized by this title to be made available; and

(B) solicitations for bids are issued after the date of enactment of this Act.

(4) The Secretary, before January 1, 1993, shall report to the Congress on contracts covered under this subsection—

(A) entered into with foreign firms pursuant to a determination made under paragraph (2) of this subsection; and

(B) awarded to domestic firms pursuant to paragraph (1) of this subsection, in fiscal years 1991 and 1992.

(5) For purposes of this subsection—

(A) the term "domestic firm" means a business entity that is incorporated in the United States and that conducts business operations in the United States; and

(B) the term "foreign firm" means a business entity not described in subparagraph (A).

TITLE II—ADVANCED TECHNOLOGY PROGRAM AMENDMENTS

SEC. 201. EMERGING TECHNOLOGIES RESEARCH AND DEVELOPMENT.

(a) SHORT TITLE.—This title may be cited as the "Emerging Technologies and Advanced Technology Program Amendments Act of 1991".

(b) FINDINGS AND PURPOSES.—(1) The Congress finds that—

(A) technological innovation and its profitable inclusion in commercial products are critical components of the ability of the United States to raise the living standards of Americans and to compete in world markets;

(B) maintaining viable United States-based high technology industries is vital to both the national security and the economic well-being of the United States;

(C) the Department of Commerce has reported that the United States is losing or losing badly, relative to Japan and Europe, in many important emerging technologies and risks losing much of the $350 billion United States market and $1 trillion world market expected to develop by the year 2000 for products based on emerging technologies;

(D) it is in the national interest for the Federal Government to encourage and, in selected cases, provide limited financial assistance to industry-led private sector efforts to increase research and development in economically critical areas of technology;

(E) joint ventures are a particularly effective and appropriate way to pool resources to conduct research that no single company is likely to undertake but which will create new generic technologies that will benefit an entire industry and the welfare of the Nation;

(F) it is vital that industry within the United States attains a leadership role and capability in development, design, and manufacturing in fields such as high-resolution information systems, advanced manufacturing, and advanced materials; and

(G) the Advanced Technology Program, established under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), is the appropriate vehicle for the United States Government to provide limited assistance to joint development within the United States of new high technology capabilities in fields such as high-resolution information systems, advanced manufacturing technology, and advanced materials, and can help encourage United States industry to work together on problems of mutual concern.

(2) The purposes of this section are—

(A) to strengthen the Advanced Technology Program created under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), and to provide improved guidelines for the allocation of Advanced Technology Program funds appropriated under the authorizations contained in section 105 of this Act;

(B) to promote and assist in the development of advanced technologies and the generic application of such technologies to civilian products, processes, and services;

(C) to improve the competitive position of United States industry by supporting industry-led research and development projects in areas of emerging technology which have substantial potential to advance the economic well-being and national security of the United States, such as high-resolution information systems, advanced manufacturing technology, and advanced materials; and

(D) to support projects that range from idea exploration to prototype development and address long-term, high-risk areas of technological research, development, and application that are not otherwise being adequately developed by the private sector, but are likely to yield important benefits to the Nation.

(c) ADVANCED TECHNOLOGY PROGRAM.—Section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) is amended—

(1) in subsection (b)(1)(B), by inserting "through grants, cooperative agreements, or contracts" after "in such joint ventures";

(2) in subsection (b)(2), by inserting "provide grants to and" before "enter into contracts";

(3) by amending subsection (d)(2) to read as follows:

"(2) In the case of joint ventures, the Program shall not make an award unless the award will facilitate the formation of a joint venture or the initiation of a new research and development project by an existing joint venture.";

"(4) in subsection (d)(3), by striking "cooperative agreement" both places it appears and inserting in lieu thereof "award";

"(5) by amending subsection (d)(7) to read as follows:

"(7) Each agreement with any business or joint venture that receives an award under this section shall specify a test, as mutually agreed to by the Secretary and the recipient, for determining whether the venture or project shall be deemed to have been a commercial success and providing that in such event there will be appropriate recoupment to the Federal Government. Such recoupment shall not exceed the principal amount, with reasonable interest, of any monetary awards provided to such recipient under the Program. The Secretary shall issue regulations establishing guidelines for agreement provisions stating the circumstances under which a venture or project will be found to be a commercial success and the general procedures and terms for recoupment in such cases.";

(6) by adding at the end of subsection (d) the following new paragraphs:

"(10) A company shall be eligible to receive financial assistance under this section only if—

"(A) the Secretary finds that the company's participation in the Program would be in the economic interest of the United States, as evidenced by investments in the United States in research, development, and manufacturing (including, for example, the manufacture of major components or subassemblies in the United States); significant contributions to employment in the United States; and agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology (taking into account the goals of promoting the competitiveness of United States industry), and to procure parts and materials from competitive suppliers; and

"(B) either—

"(i) the company is a United States-owned company; or

"(ii) the Secretary finds that the company has a parent company which is incorporated in a country which affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those authorized under this Act; affords to United States-owned companies local investment opportunities comparable to those afforded to any other company; and affords adequate and effective protection for the intellectual property rights of United States-owned companies.

"(11) Grants, contracts, and cooperative agreements under this section shall be designed to support projects which are high risk and which have the potential for eventual substantial widespread commercial application. In order to receive a grant, contract, or cooperative agreement under this section, a research and development entity shall demonstrate to the Secretary the requisite ability in research and technology development and management in the project area in which the grant, contract, or cooperative agreement is being sought.

"(12)(A) Title to any intellectual property arising from assistance provided under this section shall vest in a company or companies incorporated in the United States. The United States may reserve a nonexclusive, nontransferable, irrevocable paid-up license, to have practiced for or on behalf of the United States, in connection with any such intellectual property, but shall not, in the exercise of such license, publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a company incorporated in the United States, until the expiration of the first patent obtained in connection with such intellectual property.

"(B) For purposes of this paragraph, the term 'intellectual property' means an invention patentable under title 35, United States Code, or any patent on such an invention.

"(C) Nothing in this paragraph shall be construed to prohibit the licensing to any company of intellectual property rights arising from assistance provided under this section.";

"(7) by amending subsection (e) to read the follows:

"(e) The Secretary may, 30 days after notice to Congress, suspend a company or joint venture from receiving continued assistance under this section if the Secretary determines that the company, the country of incorporation of the company or a parent company, or the joint venture has failed to satisfy any of the criteria set forth in subsection (d)(10), and that it is in the national interest of the United States to do so." and

(8) by inserting after subsection (e) the following new subsections:

"(f) When reviewing private sector requests for Department of Commerce assistance to proposed joint ventures, and when monitoring the progress of assisted joint ventures, the Secretary shall, as appropriate, coordinate with the Secretary of Defense, and other senior Federal officials to ensure cooperation and coordination in Federal technology programs and to avoid unnecessary duplication of effort. The Secretary is authorized to work with the Secretary of Defense and other appropriate Federal officials to form interagency working groups or special project offices to coordinate Federal technology activities.

"(g) In order to analyze the need for and value of joint ventures in specific technical fields, to evaluate any joint ventures requesting the Secretary's assistance, or to monitor the progress of any joint venture which receives Federal funds pursuant to the authorizations contained in this section, the Secretary, the Under Secretary, and the Director may organize and seek advise from such industry advisory committees as they consider useful and appropriate.

"(h) Up to 10 percent of the funds appropriated for carrying out this section may be used for standards development and technical activities by the Institute in support of the purposes of this section.

"(i) As used in this section—

"(i) the term 'high-resolution information systems' means equipment and techniques required to create, transmit, receive, display, process, record, store, recover, and play back high resolution images and accompanying sound;

"(2) the term 'advanced manufacturing technology' means numerically-controlled machine tools, robots, automated process control equipment, computerized flexible manufacturing systems, associated computer software, and other technology for improving manufacturing and industrial processes;

"(3) the term 'advanced materials' means a field of research incluidng the study of composites, ceramics, metals, polymers, superconducting materials, materials produced through biotechnology, and materials production technologies, including coated systems, that provide the potential of significant advantages over existing materials;

"(4) the term 'joint venture' means any group of activities, including attempting to make, making, or performing a contract, by two or more persons for the purpose of—

"(A) theoretical analysis, experimentation, or systematic study of phenomena or observable facts;

"(B) the development or testing of basic engineering techniques;

"(C) the extension of investigative finding or theory of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, prototypes, equipment, materials, and processes;

"(D) the collection, exchange, and analysis of research information;

"(E) the production of any product, process, or service; or

"(F) any combination of the purposes specified in subparagraphs (A), (B), (C), (D), and (E),

and may include the establishment and operation of facilities for the conducting of research, the conducting of such venture on a protected and proprietary basis, and the prosecuting of applications of patents and the granting of licenses for the results of such venture;

"(5) the term 'United States-owned company' means a company that has majority ownership or control by individuals who are citizens of the United States; and

"(6) the term 'foreign-owned company' means a company other than a United States-owned company.".

(d) EFFECTIVE DATE.—The amendments in subsection (c) shall taken effect immediately upon enactment; however, the amendments shall not apply to applications

submitted in response to the Federal Register Invitation for Proposals dated July 24, 1990, or awards or other assistance granted pursuant to that notice.

(e) MANAGEMENT COSTS.—Section 2 of the National Institute of Standards and Technology Act (15 U.S.C. 272) is amended by adding at the end thereof the following new subsection—

"(d) In carrying out the extramural funding program of the Institute, including the programs established under sections 25, 26, and 28 of this Act, the Secretary may retain reasonable amounts of any funds appropriated pursuant to authorizations for these programs in order to pay for the Institute's management of these programs.".

(f) COMPREHENSIVE REPORT.—The Secretary of Commerce shall, not later than 4 years after the date of enactment of this Act, submit to each House of Congress and the President a comprehensive report on the results of the Advanced Technology Program established under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), including any activities in the areas of high-resolution information systems, advanced manufacturing technology, and advanced materials.

TITLE III—AMENDMENTS TO THE STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980

SEC. 301. FEDERAL LABORATORY CONSORTIUM.

(a) Section 11(e)(7) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(e)(7)) is amended—

(1) in subparagraph (A), by striking "a fiscal year referred to in subparagraph (B)(ii)" and inserting in lieu thereof "any fiscal year"; and

(2) by amending subparagraph (B) to read as follows:

"(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if the amount so transferred by that agency (as determined under such subparagraph) would exceed $10,000.".

(b) Section 11(e)(8) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(e)(8)) is repealed.

SEC. 302. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

(a) Section 12(d)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(1)) is amended by inserting "intellectual property," after "equipment," both places it appears.

(b) Within 6 months after the date of enactment of this Act, the Secretary shall report to the Congress on the advisability of authorizing a new form of cooperative research and development agreement which would permit Federal contributions of funds.

SEC. 303. RESEARCH EQUIPMENT.

Section 11 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710) is amended by adding at the end the following new subsection:

"(i) RESEARCH EQUIPMENT.—The Director of a laboratory, or the head of any Federal agency or department, may give research equipment that is excess to the needs of the laboratory, agency, or department to an educational institution or nonprofit organization for the conduct of technical and scientific education and research activities. Title of ownership shall transfer with a gift under this section.".

SEC. 304. DEFINITION OF FEDERAL AGENCY.

Section 4(8) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703(8)) is amended by inserting ", as well as any agency of the legislative branch of the Federal Government" after "of such title".

SEC. 305. QUALITY IMPROVEMENT.

The Secretary is authorized to use appropriated funds to cover the costs of salaries and associated benefits of the employees who administer the Malcolm Baldrige National Quality Award program to the extent such funds are needed in addition to the funds specified under section 17(f) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a(f)).

SEC. 306. UNDER SECRETARY.

Section 5(c) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3704(c)) is amended—

(1) by redesignating paragraphs (13) and (14) as paragraphs (14) and (15), respectively; and

(2) by inserting after paragraph (12) the following new paragraph:

"(13) serve as a focal point for discussions among United States companies on topics of interest to industry and labor, including discussions regarding manufacturing and discussions regarding emerging technologies;".

TITLE IV—NATIONAL COMMISSION ON REDUCING CAPITAL COSTS FOR EMERGING TECHNOLOGY

SEC. 401. NATIONAL COMMISSION ON REDUCING CAPITAL COSTS FOR EMERGING TECHNOLOGY.

(a) ESTABLISHMENT AND PURPOSE.—There is established a National Commission on Reducing Capital Costs for Emerging Technology (hereafter in this section referred to as the "Commission"), for the purpose of developing recommendations to increase the competitiveness of United States industry by encouraging investments in research, the development of new process and product technologies, and the production of those technologies.

(b) ISSUES.—The function of the Commission shall be to address the following issues:

(1) How has the overall cost of capital paid by United States companies differed during the past decade from that paid by companies in other industrial economies such as Germany, Japan, and the United Kingdom?

(2) To what extent has the cost of capital faced by technology companies differed from the overall cost of capital in each of these nations during the same period?

(3) To what extent do high capital costs in general inhibit investment in projects with long-term payoffs, such as the development and commercialization of new technology?

(4) To what extent does the structure of the financial services industry in the United States affect the flow of capital to advanced technology investment, and to what extent do current practices in the equity markets raise the cost of capital and inhibit the availability of capital to fund research and development, purchase advanced manufacturing equipment, and fund other investments necessary to commercialize advanced technology?

(5) In what ways do Government regulations influence the cost of capital in the United States?

(6) To what extent have national differences in capital costs facilitated the foreign acquisition of technology-based United States companies?

(7) What microeconomic and other policies would promote greater investment in advanced manufacturing techniques, in research and development, and in other activities necessary to commercialize and produce new technologies?

(8) What specific policies should the Federal Government follow in order to reduce the cost of capital for United States companies to levels that are near parity with those faced by the Nation's principal trading partners?

(c) MEMBERSHIP.—(1) The Commission shall be composed of 9 members who are eminent in such fields as advanced technology, manufacturing, finance, and international economics and who are appointed as follows:

(A) 3 individuals appointed by the President, one of whom shall be the Vice President and shall chair the Commission.

(b) 3 individuals appointed by the Speaker of the House of Representatives, 1 of whom shall be appointed upon the recommendation of the minority leader of the House of Representatives.

(C) 3 individuals appointed by the President pro tempore of the Senate, 2 of whom shall be appointed upon the recommendation of the majority leader of the Senate and 1 of whom shall be appointed upon the recommendation of the minority leader of the Senate.

(2) Each member shall be appointed for the life of the Commission. A vacancy in the Commission shall be filled in the manner in which the original appointment was made.

(d) PROCEDURES.—The chairman shall call the first meeting of the Commission within 90 days after the date of enactment of this Act.

(2) Recommendations of the Commissions shall require the approval of three-quarters of the members of the Commission.

(3) The Commission may use such personnel detailed from Federal agencies as may be necessary to enable it to carry out its duties.

(4) Members of the Commission, other than full-time employees of the Federal Government, while attending meetings of the Commission while away from their homes or regular places of business, shall be allowed travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

(e) REPORTS.—The Commission shall, within 1 year after the date of enactment of this Act, submit to the President and Congress a report containing legislative and other recommendations with respect to the issues addressed under subsection (b).

(f) CONSULTATION.—The Commission shall consult, as appropriate, with the Commission on Technology and Procurement established by section 504 of this Act.

(g) TERMINATION.—The Commission shall terminate 6 months after the submission of its report under subsection (e).

(h) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section such sums as may be necessary for the fiscal years 1991 and 1992.

TITLE V—STUDIES AND REPORTS

SEC. 501. HIGH-RESOLUTION INFORMATION SYSTEMS ADVISORY BOARD.

(1) ESTABLISHMENT AND PURPOSE.—The Director of the Office of Science and Technology Policy shall establish within that office a High-Resolution Information Systems Advisory Board (hereafter in this section referred to the "Board") to monitor and, as appropriate, foster the development of United States-based high-resolution information systems industries.

(b) DEFINITION.—As used in this title, the term "high-resolution information systems" means the equipment and techniques required to create, store, recover, and play back high-resolution images and accompanying sound.

(c) FUNCTIONS.The Board shall—

(1) collect and analyze information on the range of factors which will determine whether United States-based high-resolution information systems industries will develop and become competitive, including such factors as technology policies, specialized financial problems, international standards and foreign trade practices, Federal regulations and procurement policies, and licensing practices;

(2) identify areas where apropriate cooperation between the Federal Government and the private sector, including Government support for industry-led joint research and and development ventrues, would enhance United States industrial competitiveness in this area, and provide advice and guidance for such cooperative efforts;

(3) provide guidance on what Federal policies and practices, particularly in such areas as procurement and the transfer of federally-funded research, are necessary to help establish United States-based high-resolution information systems industries;

(4) provide advice on the coordination of Federal defense and civilian activities to maximize and assist with the transfer of technologies in the field of high-resolution information systems into commercial products; and

(5) generally develop recommendations for guiding Federal agency activities related to the development of United States-based high-resolution information systems industries.

(d) MEMBERSHIP AND PROCEDURES.—(1)(A) The Board shall be composed of 13 members, 7 of whom shall constitute a quorum.

(B) The Director of the Office of Science and Technology Policy, the Secretary, the Director of the Defense Advanced Research Projects Agency, and the Administrator of the National Aeronautics and Space Administration, or their designees, shall serve as members of the Board.

(C) The President, acting through the Director of the Office of Science and Technology Policy, within 90 days after the date of enactment of this Act, shall appoint as additional members of the Board—

(i) 5 members from the private electronics manufacturing sector, drawn from such sectors as semiconductors, display equipment, computers, consumer electronics, and telecommunications, with 1 member also representing labor;

(ii) 3 members from the private nonmanufacturing sector, including 1 representative from the transmission delivery systems sector and 2 representatives drawn from such areas as the software industry, the entertainment industry, and the investment community; and

(iii) 1 member from academia.

At least 1 member appointed under this subparagraph shall be from small business.

(2) The Director of the Office of Science and Technology Policy or the Director's designee shall chair the Board.

(3) The chairman shall call the first meeting of the Board within 30 days after the appointment of members is completed.

(4) The Board may use such personnel detailed from Federal agencies as may be necessary to enable it to perform its functions.

(5) Members of the Board, other than full-time employees of the Federal Government, while attending meetings of the Board or otherwise performing duties of the Board while away from their homes or regular places of business, shall be allowed travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

(6) The Board shall submit to the President and Congress a report of its activities once every year after its establishment.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section such sums as may be necessary for the fiscal years 1991 and 1992.

SEC. 502. MAJOR SCIENCE AND TECHNOLOGY PROPOSALS.

The National Science and Technology Policy, Organization, and Priorities Act of 1976 is amended by adding at the end of title II the following new section:

"MAJOR SCIENCE AND TECHNOLOGY PROPOSALS

"SEC. 209. The Director shall monitor and report annually to Congress on each major science and technology project in which more than one country is participating and which has a total estimated cost greater than $1,000,000,000.".

SEC. 503. BIENNIAL NATIONAL CRITICAL TECHNOLOGIES REPORT AMENDMENTS.

Section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6683) is amended—

(1) in subsection (a), by inserting ". but shall include the most economically important emerging civilian technologies during the 10-year period following such report, together with the estimated current and future size of domestic and international markets for products derived from these technologies" after "may not exceed 30";

(2) in subsection (b), by striking "national security and" and inserting in lieu thereof "national security or";

(3) by redesignating subsection (d) as subsection (e); and

(4) by inserting after subsection (c) the following new subsection:

"(d) Each such report shall include—

"(1) an identification of the types of research and development needed to close any significant gaps or deficiencies in the technology base of the United States, as compared with the technology bases of major trading partners; and

"(2) a list of the technologies and markets targeted by major trading partners for development or capture.".

SEC. 506. CRITICAL INDUSTRIES.

(a) IDENTIFICATION OF INDUSTRIES AND DEVELOPMENT OF PLAN.—The Secretary shall—

(1) identify those civilian industries in the United States that are necessary to support a robust manufacturing infrastructure and critical to the economic security of the United States;

(2) list the major research and development initiatives being undertaken, and the substantial investments being made, by the Federal Government, including its research laboratories, in each of the critical industries identified under paragraph (1); and

(3) develop a 10-year plan outlining the major public and private efforts, including research and development, needed to ensure the growth and stability of each critical industry identified under paragraph (1).

(b) INITIAL REPORT.—The Secretary shall submit a report to the Congress within 1 year after the date of enactment of this Act on the actions taken under subsection (a).

(c) ANNUAL UPDATES.—The Secretary shall annually submit to the Congress an update of the report submitted under subsection (b). Each such update shall—

(1) describe the status of each identified critical industry, including the advances and declines occurring since the most recent report;

(2) identify any industries that should be added to the list of critical industries; and

(3) recommend measures, including research and development, necessary to ensure the continued successful development of each identified critical industry.

SEC. 505. RESEARCH, DEVELOPMENT, TECHNOLOGY UTILIZATION, AND GOVERNMENT PROCUREMENT POLICY.

(a) ESTABLISHMENT OF COMMISSION.—The Secretary, in consultation with the Administrator of the Office of Federal Procurement Policy, shall establish a Commission on Technology and Procurement (hereafter in this section referred to as the "Commission"), for the purposes of analyzing the effect of Federal Government procurement laws, procedures, and policies on the development of advanced technologies within the United States and making recommendations on how Federal policy could be changed to promote further the development of advanced technologies.

(b) ISSUES.—The Commission shall address the following issues:

(1) To what extent, if any, should Federal Government technology purchase strategies be used to give domestic suppliers a competitive advantage in new generations of existing technologies and in initial market penetration for new technologies?

(2) Under what conditions can Federal Government purchases of advanced technology-based products be based on performance specifications rather than on product specifications? Should Federal Government procurement first look to the commercial markets for products that will meet performance specifications before purchasing a unique product that has to be developed?

(3) How can the Federal Government procurement laws, practices, and procedures be used as a strategic tool to foster the use of emerging technologies?

(4) How can the Federal Government ensure that its suppliers adopt the principles embodied in the Malcolm Baldridge National Quality Award?

(5) Should Federal Government procurement practices include cooperative efforts between the supplier and the Federal entity to develop products so as to be more easily marketed on a commercial basis? Should a program for the exchange of technical personnel to foster innovative in product development be part of such practices?

(6) To what extent, if any, should Federal Government documents specify standards that are beneficial to domestic suppliers, aid the compatibility of advanced technologies, and speed the commercial acceptance of those technologies, and what would be the role of the Institute in such an effort?

(7) To what extent should worldwide, state of the art technology be required in Federal Government procurement?

(c) MEMBERSHIP AND PROCEDURES.—(1) The Commission shall be composed of 15 members, 8 of whom shall constitute a quorum.

(2) The Secretary, the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, the Secretary of Defense, and the Administrator of General Services, or their designees who serve in executive level positions, shall serve as members of the Commission.

(3) The Secretary shall appoint as members of the Commission, from among individuals not employed by the Federal Government—

(A) 4 members who are eminent in advanced technology businesses representing manufacturing and services industries, including at least 1 member representing labor;

(B) 3 members who are eminent in the fields of technology and international economic development; and

(C) with the concurrence of the Administrator of the Office of Federal Procurement Policy, 3 members who are eminent in the field of Federal Government procurement.

(4) The Secretary shall appoint a Commission chairman from among the members of the Commission. The chairman shall call the first meeting of the Commission within 90 days after the date of enactment of this Act.

(5) The Secretary and the Administrator of the Office of Federal Procurement Policy shall provide staff as may be required by the Commission to carry out its responsibilities.

(6) Members of the Commission, other than full-time employees of the Federal Government, while attenting meetings of the Commission or otherwise performing duties of the Commission while away from their homes or regular places of business, shall be allowed travel expenses in accordance with subchapter I of chapter 57 of the title 5, United States Code.

(d) REPORTS.—The Commission shall, within 1 year after the date of enactment of this Act, submit to the Secretary, the Administrator of the Office of Federal Procurement Policy, the President, and Congress a report containing preliminary recommendations with respect to the issues addressed under subsection (b).

(2) The Commission shall, within 2 years after the date of enactment of this Act, submit to the Secretary and Congress a final report containing final recommendations with respect to the issues addressed under subsection (b).

(e) CONSULTATION.—The Commission shall consult, as appropriate, with the National Commission on Reducing Capital Costs for Emerging Technology.

(f) TERMINATION.—The Commission shall terminate 6 months after the submission of its final report under subsection (d)(2).

(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section such sums as may be necessary for the fiscal year 1991, and 1992, and 1993.

SEC. 506. REPORT ON INFORMATION COLLECTION AND DISSEMINATION.

(a) REPORT.—Within 270 days after the date of enactment of this Act, the Secretary shall report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the feasibility of establishing and operating a Federal Online Information Product Catalog (FEDLINE) at the National Technical Information Service which would serve as a comprehensive inventory and authorizative register of information products and services disseminated by the Federal Government and assist agencies and the public in locating Federal Government information. Information protected from public disclosure shall not be included. In studying the concept, the Secretary, acting through the Under Secretary and the Director of the National Technical Information Service, shall consult with officials from appropriate Government agencies, including the Office of Management and Budget, the National Archives, the Government Printing Office, and the Institute, and with representatives of the public, for their views on the optimal composition and format of FEDLINE. Such report shall contain cost estimates and possible funding sources for establishing and operating FEDLINE and shall list any changes in law and regulation that would be required if FEDLINE were to be implemented.

(b) FUNDING.—The Director of the National Technical Information Service may retain and use all monies received, including receipts, revenues, and advanced payments and deposits, to fund obligations and expenses through the end of fiscal year 1992.

(c) ELECTRONIC FORMAT.—Section 212(e)(5) of the National Technical Information Act of 1988 (15 U.S.C. 3704(e)(5)) is amended by inserting ", including producing and disseminating informatoin products in electronic format" after "engineering information".

SEC. 507. NATIONAL QUALITY COUNCIL.

(a) ESTABLISHMENT AND FUNCTIONS.—There is established a National Quality Council (hereafter in this section referred to as the "Council"). The functions of the Council shall be—

(1) to establish national goals and priorities for Quality performance in business, education, government, and all other sectors of the nation;

(2) to encourage and support the voluntary adoption of these goals and priorities by companies, unions, professional and business associations, coalition groups, and units of government, as well as private and nonprofit organizations;

(3) to arouse and maintain the interest of the people of the United States in Quality performanc, and to encourage the adoption and institutions of Quality performance methods by all corporations, government agencies, and other organizations; and

(4) to conduct an annual White House Conference on Quality Performance in the American Workplace that would bring together in a single forum national leaders in business, labor, education, professional societies, the media, government, and politics to address Quality performance as means of improving United States competitiveness.

(b) MEMBERSHIP.—The Council shall consist of not less than 17 nor more than 20 members, appointed by the President of the United States by and with the advice and consent of the Senate, Members shall include—

(1) at least but not more than 3 representatives from manufacturing industry;

(2) at least 2 but not more than 3 representatives from service industry;

(3) at least 2 but not more than 3 representatives from national Quality not-for-profit organizations;

(4) two representatives from education, one with expertise in elementary and secondary education, and one with expertise in post=secondary education;

(5) one representative from labor;

(6) one represenative from professional societies;

(7) one representative each from local and State government;

(8) one representative from the Federal Quality Institute;
(9) one representative from the National Institute of Standards and Technology;
(10) one representative from the Department of Defense;
(11) one representative from a civilian Federal agency not otherwise represented on the Council, to be rotated among such agencies every 2 years; and
(12) one representative from the Foundation for the Malcolm Baldridge National Quality Award.

(c) TERMS.—The term of office of each member of the Council appointed under paragraphs (1) through (7) of subsection (b) shall be 2 years, except that when making the initial appointments under such paragraphs, the President shall appoint not more than 50 percent of the members to 1 year terms. No member appointed under such paragraphs shall serve on the Council for more than 2 consecutive terms.

(d) CHAIRMAN AND VICE CHAIRMAN.—The President shall designate one of the members initially appointed to the Council as Chairman. Thereafter, the members of the Council shall annually elect one of their number as Chairman. The members of the Council shall also annually elect one of their members as Vice Chairman. No individual shall serve as Chairman or Vice Chairman for more than 2 consecutive years.

(e) EXECUTIVE DIRECTOR AND EMPLOYEES.—The Council shall appoint and fix the compensation of an Executive Director, who shall hire and fix the compensation of such additional employees as may be necessary to assist the Council in carrying out its functions. In hiring such additional employees, the Executive Director shall ensure that no individual hired has a conflict of interest with the responsibilities of the Council.

(f) FUNDING.—There is established in the Treasury of the United States a National Quality Performance Trust Fund, into which all funds received by the Council, through private donations or otherwise, shall be deposited. Amounts in such Trust Fund shall be available to the Council without further appropriation for the purpose of carrying out the functions of the Council under this Act.

(g) CONTRIBUTIONS.—The Council may not accept private donations from a single source in excess of $25,000 per year. Private donations from a single source in excess of $10,000 per year may be accepted by the Council only on approval of two-thirds of the Council.

(h) ANNUAL REPORT.—The Council shall annually submit to the President and the Congress a comprehensive and detailed report on—
(1) the progress in meeting the goals and priorities established by the Council;
(2) the Council's operations, activities, and financial condition;
(3) contributions to the Council from non-Federal sources;
(4) plans for the Council's operations and activities for the future; and
(5) any other information or recommendations the Council considers appropriate.

SEC. 508. FUNCTIONS OF FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY.

(a) INTERAGENCY RESEARCH PLANS.—Section 102(a)(6) of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6602(a)(6)) is amended to read as follows:

"(6) The development and implementation of long-range, interagency research plans to support policy decisions regarding identified national and international concerns, and for which a sustained and coordinated commitment to improving scientific understanding or technology will be required.".

(b) COUNCIL.—Section 401 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6651) is amended to read as follows:

"MEMBERSHIP AND FUNCTIONS OF COUNCIL

"SEC. 401. (a) The Federal Coordinating Council for Science, Engineering, and Technology (hereafter in this Act referred to as the 'Council') shall be composed of the Director, who shall be Chairman of the Council, and 1 representative of each of the Federal departments and agencies which the President shall designate. Each such representative shall be an official of policy rank appointed by the head of the Federal department or agency designated.

"(b) The Council shall consider problems and developments in the fields of science, engineering, and technology and related activities affecting more than 1 Federal agency, and shall recommend policies and other measures designed to—

"(1) provide more effective planning and administration of Federal scientific, engineering, and technological programs;

"(2) identify research needs, including areas requiring additional emphasis;

"(3) achieve more effective utilization of the scientific, engineering, and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication; and

"(4) further international cooperation in science, engineering, and technology.

"(c) The Council may be assigned responsibility for developing long-range and coordinated plans for scientific and technical research which involve the participation of more than 2 Federal agencies. Such plans shall—

"(1) identify research approaches and priorities which most effectively advance scientific understanding and provide a basis for policy decisions;

"(2) provide for effective cooperation and coordination of research among Federal agencies; and

"(3) encourage domestic and, as appropriate, international cooperation among government, industry, and university scientists.

"(d) The Council shall perform such other related advisory duties as shall be assigned by the President or by the Chairman of the Council.

"(e) For purpose of carrying out the provisions of this section, each Federal agency represented on the Council shall furnish necessary assistance to the Council. Such assistance may include—

"(1) detailing employees to the Council to perform such functions, consistent with the purposes of this section, as the Chairman of the Council may assign to them; and

"(2) undertaking, upon request of the Chairman, such special studies for the Council as come within the scope of authority of the Council.

"(f) For the purpose of developing interagency plans, conducting studies, and making reports as directed by the Chairman, standing committees and working groups of the Council may be established.".

(c) CONFORMING AMENDMENT.—Section 207(a)(1) of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6616(a)(1)) is amended by striking "established under title IV".

SEC. 509. STUDY OF TESTING AND CERTIFICATION.

(a) CONTRACT WITH NATIONAL RESEARCH COUNCIL.—Within 90 days after the date of enactment of this Act and within available appropriations, the Secretary shall enter into a contract with the National Research Council for a thorough review of international product testing and certification issues. The National Research Council will be asked to address the following issues and make recommendations as appropriate:

(1) The impact on United States manufacturers, testing and certification laboratories, certification organizations, and other affected bodies of the European Community's plans for testing and certification of regulated and nonregulated products of non-European origin.

(2) Ways for United States manufacturers to gain acceptance of their products in the European Community and in other foreign countries and regions.

(3) The feasibility and consequences of having mutual recognition agreements between testing and certification organizations in the United States and those of major trading partners on the accreditation of testing and certification laboratories and on quality control requirements.

(4) Information coordination regarding product acceptance and conformity assessment mechanisms between the United States and foreign governments.

(5) The appropriate Federal, State, and private roles in coordination and oversight of testing, certification, accreditation, and quality control to support national and international trade.

(b) MEMBERSHIP.—In selecting the members of the review panel, the National Research Council shall consult with and draw from, among others, laboratory accreditation organizations, Federal and State government agencies involved in testing and certification, professional societies, trade associations, small business, and labor organizations.

(c) REPORT.—A report based on the findings and recommendations of the review panel shall be submitted to the Secretary, the President, and Congress within 18 months after the Secretary signs the contract with the National Research Council.

SEC. 510. REPORT ON A STRATEGY TO STIMULATE COMPETITIVE RESEARCH.

(a) IN GENERAL.—No later than 120 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall submit to Congress a report presenting a proposed strategy for improving the university research capa-

bilities of those States which historically have received relatively little Federal research and development funding. The report shall particularly discuss the feasibility and advisability of using the National Science Foundation's Experimental Program to Stimulate Competitive Research as a model for similar programs in other Federal departments and agencies which fund research and development.

(b) ANALYSIS AND DISCUSSION.—The report shall include an analysis and discussion of—

(1) the geographic distribution of Federal research and development grants and contracts;

(2) current Federal efforts to stimulate competitive research; and

(3) the feasibility and advisability of new Federal programs to stimulate competitive research.

SEC. 511. INTERAGENCY COORDINATION.

The Secretary shall, within 180 days after the date of enactment of this Act, submit to the Committee on Science, Space, and Technology and the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, a plan for coordination of Commerce Department efforts with other Federal agencies for activities related to high-resolution information systems, including research and development activities.

TITLE VI—LEAD EXPOSURE HAZARDS

SEC. 601. FINDINGS.

The Congress finds that—

(1) lead is a naturally occurring element which has been used in a variety of industrial applications including radiation shields, storage batteries, paint, and gasoline;

(2) 1 in 6 United States children are victims of lead poisoning, according to the Agency for Toxic Substances and Disease Registry;

(3) lead poses a singificant environmental health problem since adverse effects have been conclusively demonstrated at relatively low exposures;

(4) lead exposures to children under age 7 are of greatest concern because of its association with significant neurotoxic effects, including reduction in intelligence, attention span deficits, and reading and learning disabilities;

(5) a primary cause of childhood lead poisoning is lead-based paint and dust in homes;

(6) past efforts to abate lead-based paint have relied on methods which endangered workers and often resulted in more available lead dust for the occupants; and

(7) improving methods for testing and abating lead-based paint offers a highly cost effective means of reducing exposures and thus preventing childhood lead poisoning.

SEC. 602. LABORATORY ANALYSIS STANDARDIZATION.

The National Institute of Standards and Technology shall, within 18 months after the date of enactment of this Act, recommend to the Administrator of the Environmental Protection Agency technical criteria and implement a voluntary accreditation program with respect to laboratory analysis of lead in paint films, soil, and dust. Funds required for implementing such a voluntary accreditation program shall be provided to the National Institute of Standards and Technology by the Administrator of the Evironmental Protection Agency. Funds received through fees and other charges for accreditation services under such program may be used by the National Institute of Standards and Technology for operating costs of the program.

SEC. 603. DETECTION TECHNOLOGY STANDARDIZATION.

Subject to the availability of funds, The National Institute of Standards and Technology shall, within 2 years after the date of enactment of this Act, recommend to the Administrator of the Environmental Protection Agency protocols, criteria, reference materials, and minimum performance standards to be used in the evaluation of emerging products and techniques for detecting lead in paint films and dust, including x-ray fluorescence devices, on-site chemical spot testers, and laboratory methods, and to ensure reliable, accurate, and effective lead detection technologies.

SEC. 604. STANDARDIZATION OF ABATEMENT PRODUCTS.

Subject to the availability of funds, the National Institute of Standards and Technology shall recommend to the Administrator of the Environmental Protection Agency performance criteria and standards for lead paint encapsulants and for strippers within 2 years after the date of enactment of this Act.

II. Summary and Legislative History of Bill as Reported

The Committee on Science, Space and Technology met May 1, 1991 to consider H.R. 1989, the American Technology Preeminence Act, the text of which had been reported by its Subcommittee on Technology and Competitiveness on April 10, 1991. H.R. 1989 is an updated version of the American Technology Preeminence Act of 1990, which was introduced by Members of the Science, Space, and Technology Committee during the 101st Congress after a series of over twenty hearings related to the status of U.S. technological competitiveness in the world marketplace. After discussion of the bill, and a quorum being present, the Committee ordered H.R. 1989, as amended by an amendment in the nature of a substitute, reported.

A. BACKGROUND AND NEED FOR LEGISLATION

"There can no longer by any doubt that the United States faces a real and unrelenting technological threat—a threat that spans both commercial and military concerns," warned the Executive Committee of the Council on Competitiveness in a March 1990 letter to President Bush. "In markets from machine tools to semiconductors, U.S. industry has been battered by foreign competition. Indeed, in some cases, such as consumer electronics, foreign competitors have taken over entire industries that the United States pioneered and once dominated. The erosion of these industries has fueled huge trade deficits and created pressure to reduce the exchange value of the dollar," the Council continued. Indeed, decline in American technological preeminence has been repeatedly identified among the nation's most serious problems.

National attention began to focus on the issue of competitiveness as the U.S. faced a persistent and growing international trade deficit in the late 1970's Spectacular economic growth in Pacific Rim nations and the more recent emergence of Central Europe as a potential market economy will continue to alter long-standing trade relations. In a world of lowered military confrontation, continued U.S. global influence will depend on economic might.

Both Presidents Carter and Reagan created Presidential level commissions to identify causes and possible solutions to our declining competitiveness, and over the past decade, many industry leaders have volunteered to serve on a variety of "blue ribbon" panels studying virtually every aspect of the issue, most recently the Critical Technologies Panel of the White House Office of Science and Technology Policy, the Council on Competitiveness, and various trade and professional organizations. Congress addressed these concerns with the passage of the Omnibus Trade and Competitiveness Act of 1988, which incorporates many elements of an emerging national consensus.

There is now widespread agreement that American prosperity cannot be separated from technological preeminence, and that government policies play a crucial role—either positive or negative—in delineating the economic environment in which new technologies are developed and marketed. In September 1988, Dr. Robert M. White, President of the National Academy of Engineering, stated, "There is now a growing understanding of the essential role

of the federal government in addressing the contextual issues of economic policy, tax policy, intellectual property protection, and legal frameworks that are needed to provide a favorable environment for investment, innovation, and increased productivity." During oversight hearings, the Committee also has repeatedly received testimony that government policies affecting procurement, the cost of capital, and tax and antitrust laws are often the factors which determine whether specific private sector technology development programs go forward, and high technology jobs are created and remain in the U.S.

Dr. Ian Ross, Chairman of the National Advisory Committee on Semiconductors, in March 1990 testified before the Subcommittee on Science, Research and Technology that there is now general agreement that the U.S. faces a major problem in high technology and the government must be part of the solution. The business environment in the U.S., he warned, imposes fundamental disadvantages on American manufacturers. Foreign producers, in contrast, "enjoy advantages in ready access to low-cost patient capital for long-term investment, . . . operate in a business enironment hospitable to cooperative ventures that are not general practice here, . . ."

While recognizing the primary responsibility of the private sector in commercial development, the Committee is convinced that a comprehensive national technology policy is urgently needed. The solutions to American competitiveness extend far beyond appropriate funding levels for government research and development, measures which were once thought to be sufficient. The economic environment in which American businesses operate has changed drastically in the last decade, and government recognition of the transformation is imperative.

In the 100th Congress, the Committee enacted legislation which has begun establishing the framework for a new technology policy. This legislation included Title V of the Omnibus Trade and Competitiveness Act of 1988 which transformed the National Bureau of Standards into the National Institute of Standards and Technology and established the Advanced Technology Program (ATP) and the NIST authorization for FY 1989 which created the Technology Administration and the position of Under Secretary for Tecnology in the Department of Commerce. The American Technology Preeminence Act of 1991 continues this process of building the framework to help private enterprise successfully develop and market new technologies, once again permitting products made in America to become widely sought after in world markets.

Therefore, the bill has three major purposes: (1) to make legislative changes which advance American competitiveness; (2) to pave the way for further reaching changes in areas including cost of capital and government high technology procurement; and (3) to strengthen the Technology Administration of the Department of Commerce to provide for more effective government participation in the solution to maintaining U.S. preeminence in technology. The bill is designed to aid the American economy across-the-board, not just one industry or technology.

B. PURPOSE OF THE BILL

The purpose of H.R. 1989 is to authorize appropriations for the Department of Commerce's Technology Administration programs totaling $289,728,000 for FY 1991 and $347,500,000 for FY 1992 including funding for the Office of the Under Secretary for Technology, the Office of Technology Policy, the National Institute of Standards and Technology, and the National Technical Information Service (NTIS); to clarify and provide authorization levels for the Advanced Technology Program; and to give certain new authorities to the Director of the White House Office of Science and Technology Policy. The American Technology Preeminence Act also establishes a Presidential Commission on Reducing Capital Costs for Emerging Technology to recommend legislative changes to lower the cost of capital in developing technologies; creates a Commission on Research, Development, Technology Utilization and Government Procurement Policy to recommend changes in government purchasing law; establishes a High Resolution Information Systems Board to increase the cooperation of Government and industry in high resolution information systems; strengthens the biennial OSTP report which identified critical civilian technologies which will be important to the U.S. economy during the ten years following the report; and authorizes a number of studies to address technology policy issues. Recommended language and technical changes have also been made to the bill to conform it to present public law.

C. ADMINISTRATION BUDGET REQUEST

For fiscal year 1992, the Administration has proposed $4.9 million for the Office of the Under Secretary for Technology and the Office for Technology Policy, which represents a $736,000 increase over FY 1991 appropriated funds; and $248 million for the National Institute of Standards and Technology, compared to $215 million in FY 1991, which includes $201.8 million for the traditional intramural laboratory research programs, with $26 million in competitiveness initiative increases and $46.2 million for the extramural outreach programs established in the Trade Bill to help U.S. industry to become more competitive. Of the $46.2 million, the Advanced Technology Program is continued at the FY 1991 level of $35.9 million; the State Technology Extension Program, funded at $1.3 million in FY 1991, has been phased out; and the Manufacturing Technology Centers, funded at $11.9 million in FY 1991, is adjusted to $10.3 million.

D. COMMITTEE ACTIONS

1. Technology Administration

For fiscal year 1991, HR 1989 proposes $6.5 million for the Technology Administration, including $1.3 million for the Office of the Under Secretary, $2.7 million for Technology Policy, $1.0 million for the Japanese Technical Literature Program, $1.0 million for the Clearinghouse on State and Local Initiatives on Productivity, Technology and Innovation, and $500,000 for the National Technical Information Service to carry out its modernization plan in accordance with the National Technical Information Act of 1988.

For fiscal year 1992, HR 1989 proposes $10 million for the Technology Administration, including $6 million for the Office of the Under Secretary, $4 million for Technology Policy, $1.5 million for the Japanese Technical Literature Program, $1 million for the Clearinghouse on State and Local Initiatives, and $1.5 million for the National Technical Information Service to carry out its modernization plan in accordance with the National Technical Information Act of 1988.

2. National Institute of Standards and Technology Intramural Programs

Section 104 of the bill proposes $166.2 million for the intramural programs for fiscal year 1991, which is the FY 1991 appropriated level for these programs. For fiscal year 1992, $210 million is proposed for the intramural programs. This reflects the concern of various Committee Members that NIST has been grossly underfunded over the years, given its major responsibilities for support of this Country's industrial base. During the 1980s, NIST programs have often not received adequate adjustments for inflation, and they have therefore lost real purchasing power. NIST's metrology research provides the measurement base American business needs to manufacture the quality products now required to compete in the world marketplace. The bill fully supports the 1992 NIST request which reflects the Administration's decision that NIST's long-term budget should double by 1996. Section 104 of the bill provides funding for the ten major program areas of NIST.

a. Electronics and Electrical Measurements

The area of electronics is authorized at $21,273,000 for FY 1991 and $33,700,000 for FY 1992. This line item supports the fundamental electronics technologies of semiconductors, magnetics, superconductors, optical fibers, microwave communications electrical power systems, and electrical measurement instrumentation. These technologies rely heavily on accurate measurements, and the funding increase is necessary to provide the U.S. industrial sector the assistance it needs to compete effectively in the world market. NIST provides measurement methods and national reference standards to support industrial R&D, quality control, and product application. Two of the initiatives planned for FY 1992 is a further enhancement of the lightwave measurement technology, including measurement development for integrated circuits, and development of measurement techniques, engineering data, and physical standards required for superconductors. The economic benefits to industry are expected to exceed $1 billion over the next ten years.

b. Manufacturing Engineering

This line item supports the U.S. mechanical engineering industry, including automobiles, commercial aircraft, and consumer electronics. Section 104 authorizes $8,266,000 for FY 1991 and $13,500,000 for FY 1992. Funding for this program will be dedicated to standards for connecting computerized design and fabrication systems between different manufacturers, control systems for robots, and factory automation. The additional funding for FY 1992 will be concentrated on developing an international data exchange

standard and the intelligent machines research progam, which will help bring a new generation of machines controlled by computer-aided design to life.

c. Chemical Science and Technology

The ability to make accurate chemical compositional measurements is a prerequisite for producing quality products in the energy, health care, materials processing and biotechnology industries. The funds authorized for this program are $18,617,000 and $22,000,000 for FY 1991 and FY 1992 respectively and includes measurement methods for DNA profiling, ultra-thin film sensors, and molecular surfaces of magnetic recording devices. The optical and electrochemical sensors developed by NIST researchers will be used by industry to make on-line measurements that significantly reduce the number of defective parts and the amount of waste created during manufacture.

d. Physics

Section 104 authorizes $25,522,000 for FY 1991 and $27,000,000 for FY 1992 for physics research at NIST. This research, which private industry is reluctant or unable to support, will provide the science base for future generations of measurement technology. NIST investigates the structure and dynamics of atoms and molecules, measurement and standards for different types of radiation, and the improvement of the accuracy and precision of time and frequency standards. One especially important program for FY 1992 is the development of a diode laser to replace conventional lasers for precision measurement.

e. Materials Science and Engineering

This line item, funding the Materials Science and Engineering Laboratory, is authorized at $26,495,000 for FY 1991 and $30,000,000 for FY 1992. New developments in materials hold the future of such diverse industries as communciations, construction, energy, and transportation. Currently, the annual U.S. shipments of advanced materials and the products made from them exceed $70 billion. NIST is concentrating on the scientific and measurement issues that will help develop process technologies that produce high quality advanced material products at reasonable cost. Advances in the development of ceramics, metal alloys, polymers, composites, and the new high temperature superconductors all create new production and precision measurement questions that this program will address.

f. Building and Fire Research

The construction industry in the U.S. totaled $432 billion in sales and employed 6.8 million people in 1989. Over 6000 people and $9 billion were lost in fires. NIST conducts research in these areas to provide a national focus to the localized fire safety industry, to provide a technological basis for building codes and the scientific capability to deal with national issues. Future programs include the formulation of seismic safety practices for water, power, gas and communication lines and a method of predicting the rate at which a fire will spread on the interior of a room. The authorized funding

for the line item is $9,821,000 for FY 1991 and $12,300,000 for FY 1992 in Section 104 of the bill.

g. Computer Systems

Section 104 authorizes $11,819,000 for FY 1991 and $16,000,000 for FY 1992 for the National Computer Systems Laboratory. Research in this area supplies the federal government and the entire computer industry with improved standard techniques for protecting electronic financial transactions, standards to increase the portability of software between different databases and vendors, and criteria to safeguard information exchange in open electronic networks. The increased funding will be directed to initiatives such as protection from computer "viruses" and "worms" in accordance with the Computer Security Act of 1987 and acceleration in standards for an Integrated Services Digital Network that would allow simultaneous transmission of voice, text, images, and data over telephone lines.

h. Applied Mathematics and Scientific Computing

The Computing and Applied Mathematics Laboratory ensures that the best and most appropriate techniques in mathematical modeling, statistics, numerical analysis, and scientific computing are made available to NIST programs and collaborative industries. Future programs are dedicated to developing experimental designs for ceramic materials processing, mathematical models for growing alloy and semiconductor crystals, and efficient algorithms used in robotics and physical simulation. Section 104 authorizes $5,847,000 for FY 1991 and $6,500,000 for FY 1992 for this line item.

i. Technology Assistance

This line item provides the scientific and technical community of the United States with access to national and international standardization activities and supports various grant programs to strengthen America's manufacturing industries. The National Center for Standards and Certification Information is also funded through this program, providing technical assistance to government, industry and the public on standards-related issues affecting trade. NIST plans on providing information for trade negotiations with Mexico and the European Community in FY 1992. The funding authorized for this program is $8,978,000 for FY 1991 and $11,000,000 for FY 1992.

j. Research Support Activities

Research Support Activities provide high caliber scientists and engineers, computing support, and special facilities for NIST programs. The program is divided into five sub-programs that each plays a crucial role in promoting the development and application of science and technology to U.S. industries. The Computer Support program provides staffing, operation and support of the supercomputer and other computer equipment at NIST. Resources that enable NIST scientists to carry out duties and respond to new requirements given by the Administration and Congress are supplied by the Technical Competence Program. There is also a Postdoctoral Fellowship Program that attracts the top research scientists, pro-

vides a link with universities, and serves as a method of technology transfer to the general scientific community. Research Support Activities also includes a Facilities Modifications and Improvements program and a Cold Neutron Research Facility program. Section 104 of the bill authorizes $29,590,000 for FY 1991 and $38,000,000 for FY 1992 to support these initiatives.

3. National Institute of Standards Programs and Technology Extramural Programs

In addition to the extensive intramural programs, NIST also provides unique opportunities for the involvement of U.S. companies in their extramural programs. Here, the financial risks of research on advanced pre-commercial technologies are shared by both government and private industry. The extramural side of NIST is divided into three main programs that are authorized funds in Section 105 of the bill and are explained below.

a. Regional Centers for the Transfer of Manufacturing Technology

This line item funds the Manufacturing Technology Centers (MTC) that seek to improve American manufacturing competitiveness in over 355,000 small and medium-sized U.S.-based firms. The MTCs maintain a close relationship with community and technical colleges to identify the companies and provide adequate training to complement the new technologies being introduced. The task for FY 1992 is to support the five existing MTCs and to fund one new center. The program is authorized $15,000,000 in FY 1991 and $25,000,000 in FY 1992.

b. State Technology Extension Program

Section 105 authorizes $2,000,000 for FY 1991 and $2,500,000 for FY 1992 for this program that expands technology transfer of advanced manufacturing techniques to smaller businesses according to more localized areas. The 1991 program is carried out under section 5121(d) of the Omnibus Trade and Competitiveness Act of 1988.

c. Advanced Technology Program

This program awards grants to U.S. companies to research and develop generic technologies that are in a pre-competitve stage. The result is a cost-shared, industry-led effort. Grants to date have benefited the electronics, semiconductor, advanced manufacturing, and biotechnology industries. The authorized funds total $100,000,000 for FY 1991 and $90,000,000 for FY 1992.

d. Technology Commercialization Loan Subsidy

Section 106 establishes a loan program to help small and medium-sized companies attempting to commercialize high technology products to find the funds needed to do so. The loans are to be for a duration and under such condition as the Department of Commerce may prescribe including interest rates up to two percent above the federal borrowing rate. The amount of loans authorized under this section is limited to the amount that can be covered by a bad debt reserve not to exceed $10,000,000.

E. COMPARISON WITH BUDGET REQUEST (ATTACHED)

BUDGET SUMMARY: TECHNOLOGY ADMINISTRATION AUTHORIZATION

[In thousands of dollars]

Budget activity	FY 1990 appropriations	FY 1991 appropriations	Administration FY 1992 request	Committee	
				FY 1991 authorization	FY 1992 authorization
Technology Administration Programs:					
Office, Under Secretary Technology	3,297	3,500	4,236	4,000	6,000
Japanese Technical Literature Program	328	400	400	1,000	1,500
Clearinghouse on Productivity Technology and Innovation	250	300	300	1,000	1,000
National Technical Information Service	0	0	[1]1,500	[2]500	[2]1,500
Subtotal	3,875	4,200	6,436	6,500	10,000
National Institute of Standards and Technology [NIST]:					
Intramural Program (Scientific & Technical Research and Services):					
Electronic and electrical engineering	16,197	21,273	33,595	21,273	33,700
Manufacturing engineering	6,233	8,266	12,617	8,266	13,500
Chemical science and technology	16,914	18,617	20,822	18,617	22,000
Physics	24,752	25,522	26,475	25,522	27,000
Materials science and engineering	23,157	26,495	28,671	26,495	30,000
Building and fire research	11,271	9,821	10,632	9,821	12,300
Computer systems	9,440	11,819	15,048	11,819	16,000
Applied math and scientific computing	5,599	5,847	6,088	5,847	6,500
Technology assistance	7,379	8,978	10,094	8,978	11,000
Research support activities	24,306	29,590	37,798	29,590	38,000
Subtotal	145,248	166,228	201,840	166,228	210,000
Extramural Program (Industrial Technology Services):					
Manufacturing Technology Centers	7,419	11,900	10,300	15,000	25,000
State Technology Extension Program	1,286	1,300	0	2,000	2,500
Advanced Technology Program	9,892	35,900	35,900	100,000	90,000
Tech. Commercialization Loan Subsidy	0	0	0	0	10,000
Subtotal	18,597	49,100	46,200	117,000	127,500
Total NIST appropriations	163,845	215,328	248,040	283,228	337,500
Grand total	167,720	219,528	254,476	289,728	347,500

[1] The Administration request for $1,500,000 for the National Technical Information Service assumes these funds will come from net revenues of that agency.
[2] See Committee action D. Section 1, Technology Administration.

III. Section-by-Section Analysis of Bill, as Reported

TITLE I

Section 101. This section designates the short title for Title I of the Act as the Technology Administration Authorization Act of 1991.

Section 102. This section enunciates the policy behind Title I.

Section 103. This section authorizes appropriations for the Office of the Under Secretary of Commerce for Technology for FY 1991 in the amount of $6,500,000, which includes $1,300,000 for the Office of the Under Secretary; $2,700,000 for Technology Policy; $1,000,000 for Japanese Technical Literature; $1,000,000 for the Clearinghouse on State and Local Initiatives on Productivity, Technology, and Innovation; and $500,000 for the modernization plan of

the National Technical Information Service. For FY 1992, $10,000,000 is authorized including $2,000,000 for the Office of the Under Secretary, $4,000,000 for Technology Policy, $1,500,000 for Japanese Technical Literature, $1,000,000 for the Clearinghouse on State and Local Initiatives on Productivity, Technology, and Innovation, and $1,500,000 for the modernization plan of the National Technical Information Service. A report to the Congress is required within 90 days of enactment of the Act containing a business and modernization plan for NTIS. The Committee added $400,000 to the authorization for the Office of the Under Secretary and $600,000 for Technology Policy for FY 1992 to provide enhanced capability for planning and to counteract the effect of budget and personnel cuts in recent years. This increase should augment the ability of the Under Secretary to help advance technology policy through the Federal Coordinating Council for Science, Engineering, and Technology. The increase should also permit the Office of Technology Policy to increase efforts to stimulate private sector cooperative R&D, promote technology transfer, support private sector productivity improvement efforts, review international science and technology agreements, monitor the availability of foreign science and technology information, and implement the Meric Usage Act of 1988.

Section 104. This section authorizes appropriations for the intramural programs of the National Institute of Standards and Technology in the amount of $166,228,000 for FY 1991 and $210,000,000 for FY 1992. The individual line items for the NIST budget are authorized as follows:

Fiscal Year 1991:

1. Electronics and Electrical Measurements, $21,273,000.
2. Manufacturing Engineering, $8,266,000.
3. Chemical Science and Technology, $18,617,000.
4. Physics, $25,522,000.
5. Materials Science and Engineering, $26,495,000.
6. Building and Fire Research, $9,821,000.
7. Computer Systems $11,819,000.
8. Applied Mathematics and Scientific Computing, $5,847,000.
9. Technology Assistance, $8,978,000.
10. Research Support Activities, $29,590,000.

This section also sets authorization floors for FY 1991 for certain activities: $2,000,000 is authorized for steel technology, and of the funds authorized under Technology Assistance, $150,000 are authorized only for the evaluation of non-energy related inventions and related technology extension activities; $250,000 are authorized for a pilot program under subsection (e); $1,700,000 are authorized for management of extramural funding programs; and $7,223,000 are authorized for the Technical Competence Fund.

Fiscal Year 1992:

1. Electronics and Electrical Measurements, $33,700,000.
2. Manufacturing Engineering, $13,500,000.
3. Chemical Science and Technology, $22,000,000.
4. Physics, $27,000,000.
5. Materials Science and Engineering, $30,000,000.
6. Building and Fire Research, $12,300,000.

7. Computer Systems $16,000,000.
8. Applied Mathematics and Scientific Computing, $6,500,000.
9. Technology Assistance, $11,000,000.
10. Research Support Activities, $38,000,000.

This section also sets authorization floors for certain activities: of the total funds, $2,000,000 are authorized for steel technology; of the amount authorized under Technology Assistance, $500,000 are authorized for evaluation of non-energy related inventions and related technology extension activities; $250,000 are authorized for the Institute's participation in the international standards pilot program established under subsection (e) and $2,700,000 are authorized for the Institute's management of the extramural funding programs; of the total funds authorized under Research Support Activities, $7,565,000 are authorized for the Technical Competence Fund.

Limitations

Under subsection (c), funds may be transferred among the ten line items provided that the net funds transferred do not exceed 10 percent of the amount authorized for that line item, and that advance notification is provided to the appropriate House and Senate Committees. The Secretary may propose transfer to any line item in excess of 10 percent provided that: (1) a full written explanation and reason for the transfer is submitted to the Speaker of the House, the President of the Senate, and the appropriate authorizing committees of the House of Representatives and the Senate and (2) the transfer is made only when 30 calendar days have passed since the submission of the written explanation.

Subsection (d) makes clear that except for authorizations provided in the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418) and the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (P.L. 100-680), this Act contains the complete authorization of direct appropriations to the Institute for fiscal year 1992 but does not limit the ability of NIST to enter into cooperative arrangements with public or private sources whether or not these activities are paid for by appropriated funds.

Subsection (e) builds on Section 112 of P.L. 100-519, the NIST Authorization Act for FY 1989, which established a privately funded program for NIST standards assistance to developing countries and required a study of NIST's long-term policy towards aiding developing nations in the modernization of their standards codes. This section establishes a pilot program to provide industrial standards development assistance to countries that request such assistance and that require the presence of U.S. personnel for two years or more for this purpose. For each of FY 1991 and FY 1992, up to $250,000 of funds otherwise authorized for NIST may be used for the program, but the funds may be made available only as matching funds are received from the private sector.

Under Subsection (f) NIST will no longer be required to seek explicit approval in appropriations acts to begin construction projects in excess of $250,000. This change is especially important in light of

the need for substantial upgrading of facilities at Gaithersburg, Maryland and Boulder, Colorado.

Under subsection (g), the fire and building research programs are combined for administrative purposes only. Separate budget accounts are maintained for each program, and a report on the results of the combination budget is required.

Under subsection (h), NIST and FAA are required jointly to prepare and carry out a plan for a research program to develop a fire resistant aircraft interior cabin.

Under subsection (i) the NIST Organic Act is amended to provide NIST with authority to manage its scientific and technical fellowship programs and to recruit and employ highly qualified foreign nationals who have advanced degrees from U.S. universities and have filed to become U.S. citizens.

Section 105. Subsections (a) and (b) authorize appropriations for the extramural programs of NIST in the amount of $117,000,000 for FY 1991 and $127,500,000 for FY 1992, as follows:

Fiscal Year 1991:

1. Regional Centers for Transfer of Manufacturing Technology, $15,000,000.
2. State Technology Extension Program, $2,000,000.
3. Advanced Technology Program, $100,000,000.

Fiscal Year 1992:

1. Regional Centers for Transfer of Manufacturing Technology, $25,000,000.
2. State Technology Extension Program, $2,500,000.
3. Advanced Technology Program, $90,000,000.
4. Technology Commercialization Loan Subsidy, $10,000,000.

Subsection (c) provides than no funds are authorized under this section for any project under the extramural programs of NIST which have not been competitively reviewed through the merit review processes established by NIST.

Subsection (d) amends Section 5121 of the Omnibus Trade and Competitiveness Act of 1988 to authorize appropriations for Technology Extension Activities for FY 1992.

Subsection (e) extends the National Advisory Commission on Semiconductors through FY 1992.

Section 106. This section establishes a loan program within the Technology Administration of the Department of Commerce to fund the commercialization of U.S. technologies within the United States. Companies eligible for the Advanced Technology Program would also be eligible to receive loans under this section. For FY 1992, the total dollar amount of loans granted under this section is limited by a requirement that the default reserve for these loans is limited to $10 million in appropriated funds plus revenues generated from setting the loan interest rates at up to two points above the government borrowing rate. The Department of Commerce is expected to take prudent steps to ensure repayment of these loans including use of private sector collection, where appropriate, on a contingent fee basis.

Section 107. This section authorizes appropriations of such additional sums as may be necessary to make any adjustments in salary, pay, retirement, and other employee benefits which may be provided for by law.

Section 108 brings the Fair Packaging and Labeling Act into conformity with the Metric Usage Act of 1988. Under this section, SI metric units of measurement become the primary units of measurement used under the Act, but there are no limits on also using avoirdupois or other units in addition to the metric units. This section shall take effect 2 years after the date of enactment of this Act.

Section 109 requires the head of each Federal agency to transfer in a timely manner to the National Technical Information Service all unclassified technical reports, computer software, and other scientific and technical information which would otherwise be available for dissemination to the public. If the agency has the information both in electronic form and hard copy, both are to be transferred. The Secretary of Commerce within a year of the date of enactment is to issue regulations to further the goal of making NTIS a one-stop source of Federal scientific and technical information for the general public. The Secretary of Commerce is to report annually to the Congress on progress in implementing this section.

Section 110. This section provides that appropriations made under the authority in this Act shall remain available as specified in appropriations acts.

Section 111. This section is a restatement of existing Buy-American requirements. They explain the conditions under which contracts may be awarded preferentially to American companies.

TITLE II

Section 201. This section designates the short title for Title II of the Act as the "Emerging Technologies and Advanced Technology Program Amendments Act of 1991." It provides further direction and authority for the Advanced Technology Program (ATP) which was established in the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418).

Section 201(b) delineates the findings and purposes, which provide the rationale for, and goals of the ATP.

Section 201(c) adds new conditions for participating in the ATP. The Secretary must negotiate an agreement with the joint venture providing for recoupment of the federal share of the consortium's funding if the joint venture is a financial success. The majority ownership of a participating company must be held by American citizens or the company must meet a set of criteria including demonstrating that the home country of its parent company affords comparable opportunities for United States incorporated companies to participate in any joint ventures similar to those authorized under this Act. All participating firms, regardless of ownership, must demonstrate their commitment to the U.S. economy. The Secretary may suspend a participating company or joint venture from further assistance if they no longer meet all of the criteria or conditions set forth in this Act.

Section 201(c) requires the Secretary to coordinate ATP programs and policies with other federal agencies inside and outside the Department of Commerce, and allows the Secretary to set up industry advisory committees. To encourage synergism between ATP and NIST core programs, up to 10 percent of the funding authorized in

the section may be used for standards development activities. The terms "high resolution information systems", "advanced manufacturing technology", "advanced materials", "joint venture," "United States-owned company", and "foreign-owned company" are defined in this section.

Section 201(d) stipulates that amendments in subsection (c) shall take effect immediately upon enactment except that it does not apply to applications submitted in response to the Federal Register Invitation to Proposals dated July 24, 1990 or awards granted after that notice.

Section 201(e) permits the Secretary to retain funds to pay for the Institute's management of the extramural funding programs.

Section 201(f) requires a comprehensive report four years after enactment of the Act on the results of the Advanced Technology Program to the Congress and the President.

TITLE III

Section 301. This section amends the Stevenson-Wydler Technology Innovation Act of 1980 to continue the set-aside from federal research and development funding for the Federal Laboratory Consortium for Technology Transfer beyond its current termination date.

Section 302. This section clarifies that intellectual property may be contributed as part of the Federal share under a cooperative research and development agreement (CRADA). This section also provides for a study of whether a variation of CRADA should be developed which permits federal cash contributions.

Section 303. This section allows Federal laboratory directors and Agency and Department heads to give research equipment, including computers, which are no longer of use to the Federal Government, to schools and non-profit organizations, to help improve science education in the United States.

Section 304. This section amends Section 14 of the Stevenson-Wydler Technology Innovation Act of 1980 which established a royalty-sharing program for Federal Agencies. This section extends the program to Legislative Branch inventors retroactive to Section 14's effective date.

Section 305. This section clarifies and confirms that the Director of NIST is authorized to use appropriated funds to pay for Federal employee salaries and related expenses under the Malcolm Baldrige National Quality Improvement Act of 1987 (P.L. 100–107).

Section 306. This section authorizes the Technology Administration to serve as the focal point for discussions among U.S. companies on topics of interest to industry and labor.

TITLE IV

Section 401. This section establishes a National Commission on Reducing Capital Costs for Emerging Technology to develop legislative recommendations to lower the cost of capital in the United States and increase the competitiveness of U.S. industry by encouraging investment in quality, product and process improvements, and new product development and marketing. The Commission, while including the Vice President as Chairman, Cabinet members

and White House officials, will also have a majority of its membership from the private sector. A report to the President and the Congress is required one year after enactment of the Act.

TITLE V

Section 501. This section establishes a High Resolution Information Systems Board to foster and monitor the development of United States based high resolution information systems industries and to make recommendations to appropriate parts of government regarding industry problems and needs. A report to the President and the Congress of its activities is required once every year after its establishment.

Section 502. This section requires the Director of OSTP annually to list all science and technology proposals and projects without U.S. participation, having a total estimated cost of over $1,000,000,000.

Section 503. This section amends Section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (P.L. 94-282) revising the requirements for OSTP's national critical technologies report to strengthen the information on civilian technologies.

Section 504. This section requires the Secretary of Commerce to identify critical industries to the U.S. economy and develop a ten-year plan to ensure growth of those industries with an annual report due to Congress.

Section 505. This section establishes a Commission on Technology and Procurement to make recommendations for change in the government procurement system to ensure that emerging technologies are encouraged through these purchases.

Section 506. This section requires the Department of Commerce to study the feasibility of creating a Federal On-line Information Product Catalog to be an authoritative register of governmental information products and services disseminated by the Federal Government and to assist agencies and the public in locating Federal government information. This section also makes clear that NTIS has the authority to engage in electronic transmission of information.

Section 507. This section establishes a National Quality Council to set national goals and priorities for quality in business, education, and government, and requires an annual report to the President and Congress.

Section 508. This section makes clear that the Federal Coordinating Council for Science Engineering, and Technology shall develop and implement long-range and coordinated interagency scientific and technical research plans to support policy decisions regarding national and international concerns.

Section 509. This section requests the National Research Council to undertake a review of U.S. activities related to testing and certification of products made for export.

Section 510. This section directs the Director of OSTP to study and report to Congress on the feasibility and advisability of using the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCOR) as a model for similar pro-

grams at other Federal departments and agencies which fund research and development.

Section 511. This section requires the Secretary of Commerce to submit to the Committee on Science, Space, and Technology and the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, a plan for coordination of Commerce Department efforts with other Federal agencies for activities related to high-resolution information systems.

TITLE VI

Section 601. This title authorizes NIST to implement a voluntary accreditation program to be used in the evaluation and detection of lead in paint films, soil and dust, and to establish performance criteria and standards for lead paint encapsulants and strippers within 2 years of enactment of this Act if funds for this purpose are made available to NIST by the Environmental Protection Agency.

IV. Committee Views

1. UNDER SECRETARY FOR TECHNOLOGY

Committee View

As part of The National Institute of Standards and Technology Authorization Act for Fiscal Year 1989 (P.L. 100-519) the Committee supported the Reagan Administration in its effort to restructure the technology components of the Department of Commerce into a Technology Administration headed by an Under Secretary. This proposal was in keeping with the long-standing Committee goal of reaggregating technology activities of the Department into a stronger and more effective entity. Programs in the Technology Administration include the Office of Technology Policy, the National Institute of Standards and Technology, the National Technical Information Service, the Japanese Technical Literature Program, the Clearinghouse for State and Local Initiatives and the Office of Metric Programs.

The Committee anticipates that the Technology Administration will carry out effectively and vigorously its mission "to develop and promote federal technology policies and programs to increase United States commercial and industrial innovation, productivity, and growth through consultation and collaboration with United States industrial and non-profit sectors." While the Committee realizes that during implementation of these activities, an improved organization and management structure may evolve, it expects all funds appropriated for the Japanese Technical Literature Program and the Office of Metric Programs to be used only for those programs and that resources be at an appropriate level for those offices to carry out their expanded duties in an expeditious manner. The Committee considers the Offices of the Under Secretary and Technology Policy to be underfunded in light of their responsibilities and, accordingly, has authorized increased funding to enable those offices to carry out their duties.

The Under Secretary for Technology is in a unique position to work closely with the President's Science Advisor to help coordinate technology and competitiveness strategies and programs with other government agencies. The Committee is especially anxious to see the Department of Commerce work closely with the Department of Defense and the Office of Management and Budget to establish understandings regarding how the Advanced Technology Program, the Department of Commerce's manufacturing technology programs, and other initiatives can strengthen both the civilian economy and the defense industrial base. It is pleased with the increased cooperation between the Department of Defense and the Department of Commerce and anticipates that budgets for the Department of Commerce's technology programs will include the resources necessary to perform its important role in assisting the manufacturing sector of our economy to develop a position trade balance and to regain the ability to be the primary supplier of strategic goods and service to the Department of Defense and to other government agencies.

2. COMMERCE SCIENCE AND TECHNOLOGY (COMSCI) FELLOWSHIP PROGRAM

Committee View

The Committee strongly supports the Commerce Science and Technology (COMSCI) Fellowship Program, which was reestablished within the Department of Commerce by the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418), and is pleased with the Department of Commerce efforts to reinstate the program.

The program, which was originally administered by the National Institute of Standards and Technology, provides a select group of Executive Branch employees, through work experiences of up to one year, with the opportunity to learn how the Legislative Branch and the other Executive Branch agencies function.

In accordance with Section 5163(d) of the Omnibus Trade and Competitiveness Act of 1988, a report outlining plans to implement the program was submitted to the Congress. The Committee has reviewed the report and found it to be consistent with the intent of the Act.

3. INTELLIGENT MACHINES

Committee View

The FY 1992 Administration budget request for funds to begin an intelligent machines program at NIST recognizes that NIST has an important role to play in the larger Federal initiative to promote the commercial design, development, manufacture, and use of intelligent machines. NIST's long experience with its Automated Manufacturing Research Facility gives NIST a unique ability to be the technically competent neutral agency which is needed for the Product Data Exchange Specification effort. NIST will develop the technology base necessary to measure the performance and establish standards for future generations of intelligent machines and manufacturing processes. NIST will focus on developing a standard reference model open architecture for intelligent machine systems

and related interface standards. These systems should speed commercial development and facilitate their implementation on the shop floor. Intelligent machines is an emerging field in which the U.S. has a true chance to be competitive and NIST involvement and support in the development of the knowledge base and underlying standards is important.

4. ADVANCED SEMICONDUCTORS

Committee View

Research leading to new measurement methods to support commercial development, manufacturing, and procurement tests for new generations of advanced semiconductors is a new initiative for NIST, yet one where NIST has developed related expertise over the years. The initiative will allow the scientific basis for certain semiconductor process control measurements to be developed, thereby verifying tests that have only an empirical basis at the present time. The NIST program will develop new measurement methods to support research, development, and the production in the U.S. of new and advanced semiconductor devices, and establish the technical basis for the related voluntary standards. The program will focus on providing specific new knowledge, test methods, data, and computer models geared towards improving performance of the devices, the quality of semiconductor materials, and the reliability of the new generation of semiconductor equipment and processes. The NIST program comes at a crucial time. In the last several years, U.S.-produced semiconductors have dropped a full 10 percent of world market share at the same time that the market share for semiconductors produced in Japan has increased 10 percent. The semiconductor industry is measurement intensive, since it is routinely applying forefront science and technology at dimensions that often outrun the ability to quantify and control manufacturing processes ranging from raw materials characterization to finished product evaluation. Therefore, new measurement technology is required to enhance U.S. competitiveness in this industry, and advancing measurement knowledge will be needed for the foreseeable future. At stake are the $50 billion worldwide semiconductor device market, the $8 billion semiconductor equipment market, and leadership in electronics which is currently the largest segment of the U.S. economy. The Committee therefore is pleased with the NIST initiative in semiconductors and hopes that the program will be strengthened in upcoming years.

5. PROCESS AND QUALITY CONTROL

Committee View

The Committee supports the Administration's proposed emphasis on analytical chemical measurements and standards in order to expand NIST's role as the national reference laboratory for chemical measurements. Analytical chemical compositional measurements are among the most widely used, economically significant, and complex measurement activities required by U.S. industry today. These data are used in virtually all industrial sectors and testing laboratories. Moreover, world market for analytical instru-

ments and chemical test supplies are expected to undergo sustained growth for decades to come. The Committee believes that an increased NIST presence in this field is an important ingredient to the revitalization of NIST's quality assurance and process control tasks overall.

The Committee views as extremely important the work required to improve the industrial measurement programs in all areas of physical and chemical standardization. While the Committee is pleased that the Administration has chosen chemical measurements as part of its modernization initiative, the Committee continues to receive testimony that further increases in process and quality control are needed to improve the physical standards program. Accordingly, as part of a continuing comprehensive program in both physical and chemical measurements, the Committee requests that NIST provide the Committee with a report on additional measurement priorties.

6. EVALUATED ENGINEERING DATA BASES

Committee View

The Committee believes that no other NIST activity has suffered more from inadequate funding in recent years than the Standard Reference Data System Program. Because of the lack of funding, NIST efforts in traditional areas such as atomic and molecular science and thermodynamics have decreased. Further, NIST has not been able to mount the data programs needed in new areas such as properties of advanced materials and biotechnology.

The Committee feels that the Standard Reference Data System Program is an area that is ripe for increased cooperation between NIST and the private sector, especially engineering and scientific professional associations. NIST has been successful in developing a limited number of joint ventures already, and the Committee expects that professional societies would be willing to contribute manpower, as well as marketing outlets, if a concerted effort was made to devise a plan for meeting the data needs of the professionals within the societies. This could, in turn, lead to much lower unit prices for NIST data products with the costs spread over a much larger group of professionals.

Therefore, the Congress directed NIST in Section 108 of P.L. 100–519 to conduct a study of needs within the private and public sectors for evaluated engineering data. As the Committee had hoped, the study identified fields where increased emphasis on the collection, evaluation, and dissemination of evaluated data will lead to improvements in design, quality, or price of products. The Committee urges NIST to take the necessary steps to implement the report fully. Ultimately, a relatively minor investment by NIST to improve access to up-to-date evaluated engineering data could save U.S. industries billions of dollars every year through the widespread implementation of increased quality in manufacturing and the elimination of wasteful overdesign.

7. ALTERNATIVE REFRIGERANTS

Committee View

Research has documented that chlorofluorocarbons (CFCs) in refrigerants contribute to the depletion of the ozone layer in the stratosphere, and that a significant loss of the ozone layer would lead to severe effects on nearly all life on earth. CFCs are also a contributor to global change, because of their strong absorption of infrared radiation.

CFCs are used as working fluids in refrigeration equipment, home and vehicle air conditioners, heat pumps, and large scale chilling equipment. CFCs are also used as blowing agents in polymer foams and insulations, and as solvents in a wide variety of applications, including the cleaning of electronic assemblies. The focus of current NIST research is on the characterization of alternative refrigerants, however, the resulting data will be of use in the development of insulating foams and of solvent recycling processes.

The Committee believes that NIST has unique capabilities to provide leadership and much of the research required in these areas. NIST is internationally recognized as the leading laboratory for both refrigeration research and thermophysical properties research, and is the principal source of applicable Standard Reference Data. Much of the current U.S. research on CFCs outside of NIST is concerned with defining the extent of the problem. In contrast, the current and planned NIST research effort directly addresses potential solutions to a significant portion of the ozone depletion problem.

The production of CFCs in the U.S. is a $1 billion industry, but CFCs have a much bigger impact on the other segments of industry that are dependent upon them. The use of CFCs is an integral part of industries which generate $28 billion in goods and services, with 715,000 jobs, and $135 billion in installed equipment. At the present time the U.S. dominates the production of CFCs and it is the major producer of the equipment using CFCs. The U.S. also consumes over 30% of the worlds annual production of CFCs. Several other nations have significant research efforts in properties of alternate refrigerants, and over the past 15 years, Japan has conducted more refrigerant research than the rest of the world combined. Therefore, a strong U.S. effort is necessary if we are to remain competitive in related technologies.

8. STANDARD REFERENCE MATERIALS

Committee View

The Committee expressed concern when the Office of Management and Budget requested that NIST impose a 40 percent surcharge, to be phased in over a five-year period, on all its standard reference materials and calibration services. NIST had experienced a large drop in sales the last time a major price increase was imposed and the Committee did not want a similar outcome. NIST was in favor of the increased surcharge because proceeds from it are being made available to NIST for research and development related to new standard reference materials and calibration services.

However, the Committee was especially concerned that small- and medium-sized businesses might be affected adversely by the policy. Therefore, section 5114 the Omnibus Trade and and Competitiveness Act of 1988 requires the Director of the NIST to justify to the Committee in writing each request of a fee increase. The Committee also has made annual requests to the General Accounting Office to review the effects of the first three incremental increases before subsequent increments went into effect.

The results of the first two GAO reviews show unit sales both of standard reference materials and calibration services increased despite the increased prices. NIST found that most of its customers are willing to pay higher fees for new and improved services and are able to adjust their budgets to pay for the fees if they know in advance when the fee increases will take effect. GAO also found no evidence of adverse impact on small business from the increased fees. Small businesses do not tend to be large or regular users of these services. The third review showed the first negative sales trend and led to the Department of Commerce stretching out its schedule for phasing in the surcharges and to the Committee asking the Department of Commerce to be especially careful in assessing further increments. The Committee feels that it is important that these services and materials be widely available at a reasonable price and will approve further increases only upon compelling evidence that the increases themselves do not contribute to the further erosion of sales.

9. INTELLIGENT PROCESSING OF MATERIALS

Committee View

The Committee is pleased with the progress that the National Institute of Standards and Technology has made to date in supporting steel technology and notes that the Department of Energy has funded several promising projects for steelmaking and steel shaping as directed in the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (P.L. 100-680). In order for these projects to achieve their full potential, however, sophisticated instrumentation and process control technologies will be required that have yet to be defined. The American Iron and Steel Institute, the Defense Advanced Research Projects Agency (DARPA), and NIST sponsored a workshop in July 1989 to identify these needs and to help define the role which NIST can be expected to play. The Committee believes it is crucial that NIST continue current support for steel technology and is pleased to see the Intelligent Processing of Materials initiative develop in a manner which will aid each of the metals mentioned in P.L. 100-680.

10. SUPERCONDUCTIVITY

Committee View

The discovery of high temperature superconductors has led to intense interest and speculation regarding the ultimate contribution these and related materials might make in the next century to the improved welfare of mankind. If high temperature superconductors with sufficient stability and improved flux density can be devel-

oped, the potential advancements they will permit in such diverse fields as computing, transportation, and electrical transmission are immense. International competition to develop and market products based on the new superconductors is intense despite indications that formidable problems may stand in the way of major commercial applications of the original high temperature superconducting materials. The potential commercial benefits of both high and low temperature superconducting materials indicate that it is imperative for NIST to provide the necessary measurement support to help assure the competitive position of the U.S. in these technologies.

The Administration has proposed in its FY 1992 budget, a second reasonable step toward fulfillment of the role specified for NIST in the President's Superconductivity Initiative. That initiative calls for NIST to develop superconductor standards (including measurement methods, standard reference materials, and supporting data), to develop devices for measuring weak magnetic fields, and to establish a superconductivity center for electronic applications at NIST, thus building on NIST's long recognized leadership in low temperature physics. NIST has established a superconductivity center at its Boulder Laboratory and has already demonstrated its capability for early effectiveness, which is reflected in well over 100 publications prepared by NIST personnel since the discovery of the high temperature superconductors. The Committee compliments the Administration and NIST on these efforts.

11. LIGHTWEIGHT MEASUREMENT TECHNOLOGY/FIBER OPTICS

Committee View

The Committee supports NIST's continuing efforts to develop a meaningful program in fiber optics and lightwave measurement, recognizing that U.S. industry faces formidable competition in pursuit of the enormous world market for optical fibers and opto-electronic components. The Committee considers the activities underway at NIST which support the U.S. fiber optics industry to be critical to maintaining the U.S. position in the communications marketplace. Preeminence in opto-electronic technology is essential to competitiveness in optical information transmission and in emerging areas such as storage of optical information data disks, and optical information acquisition and processing. Collectively, these markets will be of central importance to the U.S. economy. Therefore, the Committee urges the Administration to continue its careful review of future measurement needs in optical fibers and opto-electronic components and to ensure that NIST has sufficient funds to carry out this research.

The proposed funding increase will permit the program to grow without undue dependence on funds from the Department of Defense. Lightwave measurement technology and fiber optics have major importance to both the civilian and defense sectors; NIST must have substantial funds invested in the program in order to maintain an effective balance in program objectives.

12. FIRE RESEARCH

Committee View

The fire research program of the Center for Building and Fire Research is the Nation's central fire research laboratory. The program provides the scientific and technical bases for reducing fire losses and the costs of fire protection. Most of the basic fire research performed in this country is either conducted or funded by the program.

The fire program is mandated under P.L. 93-498, the Federal Fire Prevention and Control Act of 1974, to perform and support research on all aspects of fire, with the aim of providing scientific and technical knowledge applicable to preventing and controlling fires. This requires (1) basic and applied research to understand the fundamental processes underlying all aspects of fire; (2) research into the biological and physiological effects of fire, and human behavior during fires; and (3) operational tests, demonstration projects, and fire investigations in support of these activities, as set forth in P.L. 93-498.

Current funding for the program is significantly less than the level envisioned by the Presidential Commission on Fire Prevention and Control in 1974. Although the program continues to produce outstanding technical results, its resources are at a marginal level. At the same time, the fire safety research program has brought us to the threshold of an exciting new era in fire protection.

The Committee believes that the continuation of fire research and the grants programs are essential and that the Center must maintain separate fire and building research programs to guarantee that both missions receive proper emphasis. While the Committee acquiesced in the NIST Director's request to reorganize his agency, it did so only after receiving specific promises that the change was made to heighten the visibility of the fire and building programs, and that the merger of the two centers would be for administrative purposes only. Specific legislative language has been included in this bill to formalize the promises.

The Committee is aware that in the past NIST has performed fire research for the Federal Aviation Administration including work in the NIST Smoke Density Chamber; measurement of the ignition, rate of heat release and upward flame spread on cabin lining materials; risk analysis of worldwide fire incident data on commercial aircraft; and the modeling of fires resulting from the ignition of seats. The FAA is mandated under Public Law 100-591 to conduct research that will develop an all-fire-resistant aircraft cabin interior. FAA has not made adequate progress towards implementing the provisions of the public law. Consequently, the Committee believes that the Institute should work with the FAA to develop the necessary fire research programs, funded from the Aviation Trust Fund, to fulfill the FAA mandate.

13. BUILDING TECHNOLOGY

Committee View

The Center for Building and Fire Research also contains a building technology program that improves the usefulness, safety, and economy of buildings and enhances the international competitiveness of U.S. construction services and products. Research conducted in the program provides the technical basis for voluntary standards, building codes, and specifications by developing improved measurement techniques, test methods, and technical data, none of which would be otherwise available.

Lack of funding increases in the past have reduced the building technology program's resources significantly, yet the program has been given new responsibilities, such as earthquake hazards reduction and structural failures investigations, without additional resources. In addition, other federal agencies with building-related programs are funding less, not more, research.

The program also has a key role to play in the National Earthquake Hazards Reduction Program; it provides research and technical support for development of seismic design and construction building code provisions. NIST proved to be invaluable in studying the structural failures occurring during the October 17, 1989 Loma Prieta earthquake. In addition, federal agencies such as the General Services Administration, the Federal Emergency Management Agency, and the Department of Energy also rely on NIST as an authoritative laboratory resource for their building research needs. Therefore, the Committee is pleased that the Administration has chosen the earthquake research program of NIST for increased funding.

14. NATIONAL COMPUTER SYSTEMS LABORATORY

Committee View

The National Computer Systems Laboratory (NCSL) has the status of a major operating unit within the National Institute of Standards and Technology. NCSL has maintained its presence largely through other agency funds. In FY 1989, for instance, NCSL receives $9,488,000 from direct appropriations and $13,369,000 from other agencies.

NCSL's mission has never been more important than it is today. Computer software continues to be a very important American high technology industry and remains heavily dependent on standards. Computer security is a major concern to federal managers. Open systems research and related standards are increasing in importance as computer users become less and less tolerant of incompatible systems. The merger of computing and communications has thrust NCSL into new areas such as Integrated Services Digital Network (ISDN) standards.

The National Research Council's review panel for the NCSL for the past several years has concluded that NCSL is significantly under-funded. Their review of NCSL's program for FY 1987 stated: "The Panel's concerns expressed last year over the funding allocated to the Institute's program have not diminished. Indeed, it reiterates its position as stated in the previous fiscal year report that a

congressional appropriation of $25 to $30 million annually should be the bare minimum to provide the support that [NCSL] should be given to the federal government and to U.S. industry." The Committee is also concerned about the extent to which the NCSL has had to turn to outside sources of funding to carry out its work. In FY 1989, about 60 percent of NCSL's funding resulted from work funded by other agencies rather than from funds appropriated to NIST to fulfill the mission of NCSL. In 1985, former NIST Director, Dr. Lewis Branscomb testified before the Committee that as Director, he had felt that 40 percent funding from outside sources was dangerously high because only direct appropriations permit NIST to develop new capabilities. During his tenure as Director, he instituted a program to lower other agency work to one-third.

The Committee is pleased that for FY 1991 the Administration proposed initiatives for NCSL both in Computer Security and ISDN and hopes this increase for NCSL is the beginning of a trend towards recognition of the true worth of this important laboratory and a healthier ratio of appropriated to other agency funds.

15. COMPUTER SECURITY

Committee View

The Committee supports the Administration's request for a funding increase to carry out the responsibilities assigned to the National Institute of Standards and Technology (NIST) for implementing the provisions of the Computer Security Act of 1987 (P.L. 100–235).

The proposed increase will enable NIST to establish a laboratory-based research program to develop standards and conformance test methodologies, to initiate research to develop new computer security methodologies for distributed computer systems, and to conduct a workshop to develop requirements for computer user identification, authentication, and resource access controls. The Committee is pleased that NIST has signed a Memorandum of Understanding (MOU) with the National Security Agency (NSA), setting out the framework for cooperation between the two agencies in fulfilling their responsibilities under the Computer Security Act of 1987. The signing of the MOU will enable NIST and NSA to work closely together in jointly reviewing federal agency computer security plans for sensitive computer systems.

16. TECHNOLOGY SERVICES

Committee View

The Committee endorses the movement of NIST business oriented services and programs into a separate major operating unit, called Technology Services. This program includes the Advanced Technology Program, Regional Centers for the Transfer of Manufacturing Technology, the Technology Extension Service, the Inventions Program, International Standards, Calibration Services, and Standard Reference Materials. The Committee expects NIST to expand the number of Regional Centers for the Transfer of Manufacturing Technology and to implement the program of Assistance to State Technology Extension Services as envisioned in the Omni-

bus Trade and Competitiveness Act of 1988 (P.L. 100–418). Both efforts are designed to help small- and medium-sized manufacturers gain access to new technologies that they need to automate and compete. The Committee believes it is essential that these programs be allowed to thrive so that they can help the maximum number of manufacturers throughout the country.

The Committee believes the initiation of the state assistance program, providing technical and financial support to expand state technology efforts, will greatly increase the breadth of technology transfer efforts. Relatively small levels of assistance will enable states to leverage their outreach efforts significantly.

17. INVENTIONS PROGRAM

Committee View

Section 5212(d) of the Omnibus Trade and Competitiveness Act of 1988 [P.L. 100–418] added a Non-Energy Related Inventions Program within NIST to the existing Energy-Related Inventions Program. NIST has been highly successful in evaluating inventions and enabling those that show technical merit to obtain financing more readily both from private sector sources and from government programs at the federal and state levels which are designed to aid small business. The Committee feels that a strong inventions program is an important component of the Government's outreach to small business.

The Committee is pleased with the Inventions Program's success in establishing working relationships with appropriate Federal agencies including the Small Business Administration and the Department of Energy, as well as state and local governments, universities, and private sector organizations. Therefore, this authorization is provided only for the purposes of evaluating inventions including building alliances and developing networks to expand services available to inventors with meritorious ideas as a low-cost way of leveraging NIST's expertise and of enhancing the assistance that small businesss advocates can provide to their clients. The authorization is meant only to enable NIST to continue funding the activities above, not to fund grants.

18. PUBLIC SAFETY NOTIFICATION

Committee View

The Committee applauds the agreement concluded between NIST and the Montgomery County Local Emergency Planning Council. The agreement sets out procedures for the notification of local government officials in the event of an environmental emergency at the NIST laboratories in Gaithersburg, Maryland. The agreement is also intended to ensure the availability of accurate information for county residents during normal NIST operations.

This agreement was negotiated in response to the release of low level radioactive discharges from the NIST reactor in August 1987. The Committee expects NIST to adhere to all tenets of this agreement. The Committee hopes that these procedures will serve as a model for coordinated notification and response at other federal facilities managed by NIST and by other federal agencies.

The agreement reads as follows:

MEMORANDUM OF UNDERSTANDING BETWEEN THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY AND THE MONTGOMERY COUNTY LOCAL EMERGENCY PLANNING COUNCIL—JULY 27, 1989

PURPOSE

This Memorandum of Understanding is executed to ensure the best possible coordination between county emergency facilities and NIST in the event of an environmental emergency and to promote accurate information availability to all county residents during normal NIST operation or during an emergency situation involving NIST.

NIST RESPONSIBLE OFFICIALS

The Chief, Reactor Radiation Division, will be the NIST initiating official for all reportable radiological events involving the NIST reactor.

The Chief, Occupational Health and Safety Division, will be the NIST initiating official for all reportable events involving environmental release of hazardous materials other than those falling within the purview of the TR 095 Reactor License.

The NIST initiating official shall assume the responsibility for prompt notification of the Chief, Public Information Division (PID), whenever a reportable event occurs. The initiating official shall serve as an information resource to the PID or to county officials when requested by the Chief, PID.

EMERGENCY NOTIFICATION

The NIST Public Information Division shall promptly notify the Montgomery County Local Emergency Planning Council (LEPC) of any class of emergency declared at the NIST reactor as a result of an actual or projected release of radiological effluent at the NIST site boundary or as a result of a prolonged fire that threatens the reactor. Definitions of emergency classes and Nuclear Regulatory Commission notification time limits are given in the NBSR Emergency Plan.

The NIST PID shall promptly notify the Montgomery County LEPC whenever a regulatory reportable event occurs involving the release of chemical/hazardous materials into the environment and that may extend beyond the NIST site boundary.

For any NIST-site event not requiring a regulatory report, but in the professional judgment of the NIST initiating official could cause apprehension/alarm to the surrounding community, the initiating official shall communicate the circumstances of the event to PID with the recommendation that an informational report should be made to the Montgomery County LEPC.

INFORMATION AVAILABILITY

The NIST PID will make available to the Montgomery County LEPC, the NBSR Annual Report to the U.S. Nuclear Regulatory Commission and the NIST Radiation Safety Committee's Annual Report to the NIST Director. The NIST initiating officer will make

available to PID any other formal NIST reports which, in their professional judgment, will assist LEPC in public awareness during an emergency situation.

Copies of NIST policy or procedure documents which relate to environmental protection are available from the Chief, Occupational Health and Safety Division. These documents will be available to county officials as requested in areas where joint county/NIST planning activities are ongoing.

The county may appoint an observer, with NIST approval, to the annual NIST Radiation Safety Committee meeting. The observer should be technically trained and knowledgeable in matters dealing with radiation safety.

RAYMOND G. KAMMER,
Acting Director, NIST.

19. ADVANCED TECHNOLOGY PROGRAM

Committee View

The Advanced Technology Program (ATP), established by the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418), is designed to foster development of emerging technologies, encourage joint ventures, and help American companies meet the challenge of foreign technology initiatives, some of which are government-supported. The emphasis is to be on the development of generic technologies which have broad application across industries. If adequately funded and well managed, the Committee believes the ATP could have a substantial positive impact on the competitiveness of U.S.-based manufacturers.

The Committee believes that the ATP is an appropriate mechanism for the Federal Government to provide assistance to U.S. businesses in their efforts to commercialize significant new scientific discoveries and technologies, such as those in digital electronics, advanced materials, and biotechnology.

Part of the initial impetus for establishing the ATP was the creation of Sematech, the joint R&D venture in the semiconductor industry. The project received a government contribution to start operation. While the ATP funding in this Act should not support a project as large as Sematech, Sematech is an example of the kind of industry-led joint venture that ATP is meant to foster. The Committee urges NIST to consult with agencies that have funded successful industry-led research projects as it develops the ATP.

This Act provides further direction and authority for the ATP, supplementing the provisions of P.L. 100-418. This Act, for example, includes recoupment requirements, which hold out the possibility of the federal government getting back its investment in successful joint ventures plus a reasonable rate of return from companies with commercial successes directly attributable to ATP participation.

This Act also sets the conditions that a company must meet to be eligible to apply for participation in the ATP. A company should meet two sets of tests before that company or a joint venture including that company is eligible to apply for funds authorized for the ATP. First, a company must demonstrate a commitment to invest in the U.S. and that the U.S. economy will reap the benefits

of the company's participation in the ATP. This commitment must be evidenced by investments in U.S. based research, development and manufacturing including, for example, the manufacture of major components and subassemblies in the United States. This commitment is also evidenced by significant contributions to employment in the U.S. With regard to this "commitment" provision the Committee finds that more is required than just "screw driver" operations, whereby imported major components and subassemblies are assembled into a final product with as few U.S. employees as possible. Second, to be eligible a company must be a United States owned company (defined as more than 50% owned by U.S. citizens) or of a U.S. incorporated subsidiary of a foreign owned company (defined as not a United States owned company). To be eligible, a foreign-owned subsidiary must demonstrate the following: that the country in which its parent company is incorporated provides "adequate and effective protection" to the intellectual property of U.S. incorporated companies, that foreign subsidiaries of U.S. owned companies are afforded local investment opportunities comparable to any other company and also are afforded comparable opportunities to participate in programs similar to the ATP if such programs exist in that country.

It is the Committee's view that the criteria established for eligiblity to participate in the ATP serve the important goal of encouraging the development of new technologies in the United States and the subsequent manufacture in the United States of products developed using such technology. The bill reflects the Committee's view that, under the specific conditions for eligibility set out in the bill, considering U.S.-incorporated, foreign-owned companies for participation in the ATP program is consistent with the overall goal of the Act to promote the competitiveness of U.S. technology.

The Secrtary is also given discretion in deciding which areas of technology and specific projects to fund and how much money to award to each (within the limits set by statute). Assistance must be awarded competitively and, technical and commercial merit being relatively equal, those proposals requiring the lowest share of federal funds should be favored unless the federal share is so low, that in the opinion of the Secretary, the project is likely to go forward without Federal involvement.

20. HIGH RESOLUTION INFORMATION SYSTEMS

Committee View

Digital High Resolution Information Systems (HRIS) present a unique opportunity for U.S.-based industry to regain former strength in the consumer electronics market and an equally unique danger to the remainder of U.S. electronics if an effort is not made to become significant participants in that market. As computers and communications continue to merge, the U.S. strength in digital technology gives companies manufacturing in the U.S. an opportunity to become players in these multi-billion dollar markets. Failure to participate in HRIS may further weaken the U.S. semiconductor and semiconductor equipment industries, since by some estimates the advanced television market at its peak will use over one-half the world's output of dynamic random access memory chips.

The Committee realizes that other applications for high resolution digital technology, such as engineering work stations, undoubtedly will predate commercial use of this technology in advanced television sets. Early applications are also likely to involve surgery, manufacturing, air traffic control, and defense systems.

The Committee feels that the Advanced Technology Program is an appropriate civilian vehicle for the Federal Government to provide assistance to U.S. companies in the establishment and funding of joint research and development ventures for this family of technologies. While the Act does not mandate that any particular technology be funded, it includes HRIS technologies and advanced materials processing as areas worthy of support. HRIS and advanced materials projects considered under this initiative are subject to the same merit review requirements as all other applications for ATP-assisted joint ventures.

21. TECHNICAL COMPETENCE FUND

Committee View

The Technical Competence Fund is crucial to fostering new ideas and areas of expertise within the National Institute of Standards and Technology and is the only fund within NIST which permits a rapid response in important new areas of technology. The Technical Competence Fund has enabled NIST to develop staff expertise in areas as diverse as automated manufacturing, robotics, biochemistry, superconductivity and surface physics.

The report of the White House Science Council-Federal Laboratory Review Panel (Packard Report) recommended that laboratory directors have 5 to 10 percent of their budgets in a discretionary account to give research personnel the flexibility and freedom they need to investigate areas which are important, but may not be of high priority to those monitoring programs from outside the laboratory.

The recent breakthroughs in superconductivity illustrate why the NIST Technical Competence Fund should be enhanced. The superconductivity metrology programs has been reduced in recent years because more than a decade had passed since the last breakthrough. Suddenly, superconductivity became one of the Nation's hottest research topics and revolutionary scientific breakthroughs placed unanticipated demands on several NIST programs. NIST did not have the resources either in equipment or staffing to meet the requirements being place upon it. However, if the Director had additional discretionary funds available, these resources could be directed toward major advances as they occur, rather than a year or two later. The Committee endorses the FY 1991 request for the Technical Competence Fund and authorized increased funding in FY 1992. The Committee urges NIST to continue to increase the fund in subsequent years until the fund is at least 5 percent of total resources available to NIST.

22. SCIENTIFIC COMPUTING UPGRADE

Committee View

The Committee supports the Administration's request to upgrade the scientific computing facilities at NIST. The present central computing facility, the Consolidated Scientific Computing System (CSCS), was established in 1985 to serve the computing needs of the scientific and engineering communities of NIST, and the Environmental Research Laboratories (ERL) of the National Oceanic and Atmospheric Administration (NOAA). Scientific computing is used by NIST and ERL scientists to enhance insight and improve understanding of phyical phenomena, to test theories against experiments, to predict behavior, and to provide a substitute for more expensive laboratory experiments and field observation.

The present system, centered on the Cyber 205, suffers from system saturation to the point where critical mission needs will not be met if action is not taken to upgrade NIST's scientific computing capabilities. As required by H. Rept. 100–673, Part 1, NIST submitted a report to the Committee on the present and future needs of NIST's supercomputer facilities within 90 days after enactment of the FY 1989 authorization act, and a FY 1990 request based on the recommendations made in the report. NIST plans to phase in the upgrade of the Scientific computing system over a period of four years. The objectives are: to replace the Cyber 205 supercomputer with a modern mini-supercomputer to provide greater processing power, enhanced operating system compatibility, and larger memory; and to begin acquisition of interactive systems to replace the existing Cyber 855 in Gaithersburg, Maryland and Cyber 840 in Boulder, Colorado to provide operating system compatibility with the supercomputer and local workstations. The Committee considers adequate computer capability and capacity to be essential for NIST's research programs, and accordingly endorses the NIST plan to begin supercomputing upgrades in FY 1992 and given the rapid state of improvement in supercomputing, asks NIST to consider routinely including funds for upgrades in its budget rather than waiting several years between upgrades.

23. CONSTRUCTION NEEDS

Committee View

The Committee notes that programs are expanding at the National Institute of Standards and Technology. Personnel and equipment have been added at both the Gaithersburg, Maryland and Boulder, Colorado sites without facilities being expanded or improved. The Committee is concerned that this influx is leading to overcrowed conditions. The Committee also wishes NIST to avoid, if possible, the leasing of commercial space if, with proper planning, additional government facilities in Boulder and Gaithersburg can meet the same needs.

The Committee understands that facilities occupied by the National Oceanic and Atmospheric Administration (NOAA) at the Department of Commerce's 325 Broadway site in Boulder are likely to be vacated by NOAA. After substantial remodeling, the facilities potentially could solve NIST's need for expansion in Boulder. The

Department of Commerce's Inspector General has conducted a management review of the Boulder situation and has concluded both that a building should be construted for NOAA and that either OMB approval or special legislation is needed.

The Committee supports the decision of the Administratioin to begin te long overdue effort of upgrading the 35-year-old Boulder labortory and the 25-year-old Gaithersburg campus and urges NIST to prepare a multi-year plan to fund the needed repairs. NIST currently estimates the cost of repairs and modernization at over $40 million.

24. INTERNATIONAL STANDARDS

Committee View

The trend throughout the world toward common markets makes international standards a topic of increasing importance. Throughout the 1960s in many fields, U.S. standards were international standards activities. Now with the Europe 1992 process in full swing, the day when the U.S. market is not the world's largest and when U.S. standards will be harder to promote is fast approaching.

Private sector standards participants, NIST, and the U.S. Congress must now be more involved in international standards activities to make sure fair consideration is given to the U.S. point of view. The U.S. must also take more seriously the worldwide adoption of the metric system.

The Committee will expand its examination, at a later date, to determine if the U.S. should continue the practice of having participation in international standards activities entirely funded by the private sector. Among developed nations, this is a policy followed only by the U.S. and Switzerland. While the private sector standards system needs to be preserved, the Committee will continue to review other countries' solutions to this problem, such as the Standards Council of Canada for applicability in the United States.

The Committee accepted a floor amendment by Congressman Dymally to the National institute of Standards and Technology Authorization Act for FY 1989 (Sec. 112 of P.L. 100–519), which established a voluntary program for NIST standards assistance to developing countries and required a study of NIST's long-term policy towards aiding developing nations in the modernization of their standard codes. It is clear that certain other countries such as Japan and West Germany are obtaining advantages in international trade through standards code development activities. U.S. companies are already noticing that increasing numbers of requests for bids from these countries are being written in terms of those countries' standards which make it more difficult for U.S. companies to compete.

The Committee would like to commend the Department of Commerce, NIST, and the American/Saudi Business Roundtable for initiating a pilot project in standards assistance to Saudi Arabia. The Committee supports the approach taken, which is to create a partnership between the U.S. government and American business that will promote the adoption overseas of product standards that do not exclude American exports. NIST's ability to tie into thousands of private sector standards committees has enabled just one man in

Saudi Arabia to provide expert advice that has been used in drafting dozens of Saudi standards.

The Committee expects NIST to expand the full $250,000 autorized, if a private match for the Federal share of the cost is forthcoming and if overall NIST appropriations are sufficient. The money can back one or several efforts. NIST need not wait for the entire $250,000 to be raised privately to obligate a portion of its funds. If a group raises $125,000, for example, and commits those funds to a joint standards effort, NIST will be deemed constructively to have received $125,000 and is free to match that amount.

The Committee is concerned about the low level of private sector awareness of the importance for U.S. participation in assisting friendly Third World countries with formulating their product standards. NIST should take a more active and visible role in educating both the public and private sectors about the necessity of its participation in the product standards formulation of Third World importer nations in order to protect (or in some cases expand) our export market share.

25. MODERNIZATION OF THE NATIONAL TECHNICAL INFORMATION SERVICE

Committee View

The National Technical Information Service (NTIS) has the responsibility to accumulate and distribute the enormous body of scientific and technical literature that is generated by federal laboratories, agencies and government contractors. The provisions found at 15 U.S.C. 1151 direct NTIS as a general rule to recover costs from fees paid by users of information products and services.

For NTIS to offer high quality service to American industry, academia, and government, the Committee believes NTIS must automate its receipt, storage, and transmission of documents and orders. NTIS also must make the information and documents it sells available to its customers in various electronic formats and in as user-friendly a fashion as possible.

This bill authorizes NTIS to inaugurate a carefully planned modernization program. Instilling financial discipline at NTIS must be part and parcel of any effort to update its operations. The first steps toward modernization must be: (1) hiring a chief financial officer who meets the requirements laid out in H.R. 4329 (at the GS or SES pay grade necessary to attract such a person); (2) the installation of an adequate accounting system that addresses the concerns raised by Inspector General Report ATD 09024 090 09001; (3) development of a detailed plan for modernization that includes specific goals, schedules, and cost estimates for improving NTIS's operational and marketing systems; and (4) an assessment of NTIS's product lines to get a better sense of the impact of each product on the agency's budget. The $1,500,000 authorized for FY 1992 in Sec. 107 should not be obligated until the Secretary of Commerce complies with the reporting requirements of Sec. 107(c) and submits the modernization and business plans to Congress, responds to the Inspector General's report, and certifies that a chief financial officer has been hired and that NTIS has taken reasonable steps towards strengthening its accounting system. NTIS must assign the chief fi-

nancial officer a high enough salary to attract a capable individual who meets the requirements of the Act. The current NTIS modernization and business plans required by statute, "NTIS 2000", provides insufficient detail to meet the requirements for the obligation of the funds.

NTIS's value has been diminished not only by its own failings but by difficulties created by other agencies. The Committee is concerned with the declining percentage of documents from federal agencies that are now deposited with NTIS. It expects agency science and technology documents routinely to be deposited with NTIS, in electronic form if possible. It requests the Department within six months of passage of H.R. 4329 to report to the Committee on efforts to increase the percentage of documents deposited with NTIS and to encourage those research agencies not currently participating in the Federal Research In Progress (FEDRIP) program to do so.

The Committee is interested in learning whether it is feasible to establish a "FEDLINE" service—an on-line inventory and authoritative register of all information products and service disseminated by the Federal Government. The report should examine the most accessible, timely and cost effective approaches to developing "FEDLINE."

The Committee notes the references to NTIS in the June 15, 1989 Federal Register Notice on OMB Circular A-130. It agrees with OMB that NTIS is an appropriate agency for the deposit of inventories of information dissemination products and for the compilation and publication of a government-wide index for locating government information. The Committee feels these responsibilities would complement current work at NTIS, but urges OMB to make sure that adequate resources are available to carry out these new responsibilities.

The Committee shares the high priority NTIS places on machine-aided translation of scientific and technical literature. It commends NTIS for assigning a high priority to entering one or more joint ventures with private sector partners to utilize a production computer-assisted translation system and urges the Under Secretary for Technology to assist NTIS to promote interagency cooperation in this area.

Public Law 100-519, Section (a)(C) authorizes NTIS to—

> Enter into contracts for the performance of part or all of the functions performed by the Promotion Division of the Service prior to the date of the enactment of this Act. The details of any such contract, and a statement of its effect on the operations and personnel of the Service, shall be provided to the appropriate committees of the Congress 30 days in advance of the execution of such contract.

The Committee requests the Secretary report to the Committee, within 180 days of enactment of this Act, the status of implementation of this provision.

26. METRIC CONVERSION

Committee View

As the only non-metric industrialized nation in the world, U.S. industry sometimes finds itself at a competitive disadvantage in international markets. U.S. business is at risk of losing substantial sales opportunities, and the situation will worsen as potential overseas customers become less and less willing to accept non-metric products. There are indications that the European Economic Community will soon restrict non-metric imports.

The Committee believes the Federal Government has a responsibility to develop procedures and techniques to make it easier for U.S. industry to use metric so as to be able to compete on an equal footing with their overseas competitors. One such service the Committee hopes will be in place in the near future is the inclusion of information on domestic suppliers of metric components in appropriate federal data bases.

Section 5164 of the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100–418) amended the Metric Conversion Act of 1975 by designating the metric system of measurement as the preferred system of weights and measures for U.S. trade and commerce. The Act requires each agency by the end of FY 1992, to the extent economically feasible and as long as such use is not impractical or likely to cause inefficiencies or loss of markets to United States firms, to use the metric system in its procurements, grants, and other business-related activities. The ability of federal contractors and suppliers to do business in metric should increase U.S. access to foreign markets and decrease our trade deficit, since metric literacy is a prerequisite to competing in most overseas markets. Therefore, agencies are faced with the dual responsibilities of promoting metric in their own business-related activities, including regulatory matters, and assisting potential grantees, contractors, and suppliers as they convert to metric.

The Under Secretary for Technology's Office of Metric Programs, as a result of the Executive Order disbanding the Metric Board and the transfer of related functions to the Department of Commerce, is the coordinating point within the Federal Government for support of companies voluntarily expanding their use of the metric system. The Committee urges the Department to adequately support the Office of Metric Programs to meet the increased responsibilities this office must assume if the Metric Usage Act is to be successfully implemented.

27. JAPANESE TECHNICAL LITERATURE PROGRAM

Committee View

The Committee continues to be concerned about the imbalance in the exchange of scientific and technical information between the U.S. and Japan. Significant U.S. and European advances in science and technology become common knowledge in Japan much faster than Japanese advances become known in the U.S. This continues to be the case despite the rapid rise in the quality of Japanese research and development. The Japanese openly publish much of their research that is not product-specific. Approximately 10,000

scientific and technical journals are published in Japan, and some of these are in English. Abstracts for other journal articles and papers are also available in English.

In the late 1970s and early 1980s, there were active efforts to improve the holdings of American libraries in Japanese science and technology. However, a survey to ascertain the adequacy of U.S. library holdings and to determine if U.S. libraries have the ability to respond to the needs of the U.S. research community has not been undertaken. The Committee, therefore, requests that Under Secretary for Technology, in cooperation with the National Science Foundation and the Library of Congress, to assess this situation and report to the Committee, within nine months of passage of this Act, on the degree to which significant Japanese science and technology journals, books, and other technical literature are available to American researchers. The report should also discuss the ease with which a researcher located within the U.S. can obtain needed information, and recommend how such information from current and back issues of these journals can be made available to U.S. researchers within a time frame and at a cost which does not impede research. The report should also address reasons for low demand for these materials, make suggestions for increasing interest, and discuss special problems caused by differences between U.S. and Japanese copyright law.

The Committee is concerned that some perceive the Japanese Technical Literature Program's specific designation as a "division" within the International Affairs Office instead of an "office" within the Techology Administration as a downgrading of the importance of this initiative. The Committee expects the Department of Commerce to expand and strengthen its efforts in gathering Japanese scientific and technical information and in making that information available to U.S. companies, including the analysis of trends in Japan. The Committee believes this Program should continue to receive a high profile in the Technology Administration in order to emphasize to the private sector the seriousness of the Japanese challenge. The Committee, therefore, requests the Under Secretary for Technology to develop a long-range plan in time for initial implementation in the FY 1992 budget cycle that would: accomplish the goals and purposes of the Japanese Technical Literature Act and those portions of the 1987 Executive Order on Competitiveness that are related to Japan; lead to machine transaction of Japanese technical literature at the earliest possible date; and permit the Technology Administration to coordinate an interagency effort to collect Japanese scientific and technical literature in Japan.

28. CENTERS FOR SCIENCE AND RESEARCH

Committee View

The Committee notes that technology competitiveness has many distinct facets. Improvements in each sector are necessary to improve productivity consistent with the objectives of the Omnibus Trade and Competitiveness Act of 1988.

For instance, the use of information technology and advanced materials have greatly increased in recent years as part of an effort to improve productivity in both manufacturing and services

and important industries such as textiles and steel are finding major technological improvements necessary to stay competitive.

Applied research in information processing will greatly improve productivity in the manufacturing and services sectors in areas such as just-in-time delivery, computer interfaces and software integration with flexible automated systems. An example of an initiative in this area is the Illinois Service Industry Productivity Center proposal. Advanced materials components in the manufacturing process are vital as new materials in the fields of ceramics, biochemical engineering, surface coatings, and large scale structural systems are needed to further production sciences. An example of an initiative in this area is the National Center of Industrial Innovation at Lehigh University. Centers focused on the generic problems of industry can aid technology competitiveness by bringing together expertise and resources not available to individual companies. Work in design, in manufacturing and in systems integration is especially needed. An example of an initiative in this area is the National Textile Center at North Carolina State University. The Committee urges the Department of Commerce to consider establishing programs at universities in these fields under programs authorized in the Omnibus Trade and Competitiveness Act of 1988 or other existing authority.

29. INDUSTRIAL COMPETITIVENESS

Committee view

Title II of this Act addresses Emerging Technologies R&D and competitiveness. However, it does not address all the issues related to United States competitiveness.

The Subcommittee finds that the ability of our country to compete in the international markeplace has diminished during the last two decades. While many factors have contibuted to this decline, we believe that one stands out in particular—the high cost of capital.

Owing to outdated—and even misguided—budget, tax, trade, and antitrust policies, our firms are forced to pay more to borrow money than many of their international competitors. Our international competitors earn profit quickly, and this, unfortunately, makes it much more difficult for us to implement the kinds of long term strategies that will help guarantee our competitive position in the world.

By promoting policies that encourage saving, investment, and a balanced budget, we can release our firms from their short term horizons. We also advocate policies that will give our firms greater flexibility to work together to achieve common objectives and more freedom to determine their own destines. Likewise, an improved partnership between industry and our educational institutions will help prepare our students for a competitive, new world.

We believe that the following policies will improve the competitive position of our country.

The Research and Development Tax Credit should be made permanent and extended by including a percentage of all research expenses. Since our competitiveness is based on our ability to create,

develop and market new products, a permanent R and D Credit will tell our firms that their investments will pay off.

In high-definition television, semiconductors, medical research, and in a host of other areas, stiff antitrust rules have made it difficult for our companies to engage in joint ventures that go further than merely engaging in research and development. This is unfortunate because additional cooperation among firms is vital if our industries are going to maintain and increase their profitability. We should allow our firms to form joint ventures to engage not only in research and development, but also production. At the same time, firms should be required to go through a sufficient notification procedure to enable the government to make sure that these firms will not also take part in any anti-competitive activities such as price-fixing.

Our students need additional and more specialized training to enable them to participate effectively in the work force. We can start by improving the partnership between industry and schools, for only by cooperating will these two groups be able to train workers to meet the challenges of the next century. Toward this end, a tax incentive for companies to lend their employees to schools and colleges to assist in teaching students and preparing course materials should be considered.

In conclusion, we believe that the recommendations can play a vital role in addressing the competitive position of our country. For only by addressing the competitive position in a coordinate manner will we be able to improve our competitive position.

30. NIST INTRAMURAL PROGRAMS

Committee View

The President's National Institute of Standards and Technology (NIST) budget request for fiscal year 1992 was $248 million for both intramural and extramural programs. This is an increase of 15 percent over the fiscal year 1991 appropriations of $215 million. Moreover, the Administration has indicated a desire to double the budget of NIST over the five year period beginning with 1990. The Committee agrees that the proposed doubling would make a major contribution to United States industrial competitiveness.

The heart of the NIST programs are those in the intramural area. NIST is the oldest national laboratory and the only laboratory with the express mission of aiding U.S. industry.

The importance of the intramural programs was described by several witnesses at the Subcommittee hearings. The following excerpts are from these hearings:

> NIST's intramural laboratory programs grew in real terms by less than 10% over the past fifteen years, while R&D spending by industry increased by 82% and the U.S. Government's overall R&D spending grew by 57%.
>
> DR. ROBERT M. WHITE,
> *Under Secretary of Commerce for Technology.*
>
> This funding request includes $201.8 million in intramural appropriations . . .

It is designed to strengthen NIST research programs in support of U.S. industry in economically important areas such as electronics, advanced materials, computers, communications, industrial chemical technology, and manufacturing . . .

In selected areas of public health and safety and the environment . . .

Competition for resources has been intensified by the new extramural programs . . .

We must realize that the extramural programs are both innovative and experimental requiring careful evaluation.

DR. JOHN W. LYONS, DIRECTOR,
National Institute of Standards and Technology.

I want to make clear at this point that when I talk about the need for doubling the NIST budget I am referring to its in-house, laboratory-based research and services. The first priority is to provide NIST with the resources required to allow it to continue to be a world-class laboratory in support of U.S. industry and government. This research base must be strong enough to support all of the other extended and expanded missions, or those new missions will surely crush the very capability which led policy makers to establish NIST in the first place . . .

NIST intramural research program is a national jewel on which industry justifiably relies. The first priority of the committee should be to support NIST's in-house research and services at a level substantially higher than it has been supported in past years . . .

Any new NIST assignments must also be accompanied by adequate new resources, not at the expense of the laboratory based programs.

DR. JOHN P. MCTAGUE,
Vice President—Technical Affairs, Ford Motor Co.

Perhaps of greatest importance to American Society for Testing and Materials (ASTM) is the fact that the work of NIST provides research and technology upon which many ASTM standards are based. ASTM produces nearly 8,500 standards . . .

ASTM's work would be materially hurt without the participation of the almost 250 scientists and engineers of the Institute in the work of our technical committees and without the basic research, reference materials, and advanced measurement techniques which NIST has developed and shares with us . . .

I could cite to you almost innumerable examples of how NIST's reseach efforts have contributed to improving the quality and performance of U.S. products as well as their safety.

JOSEPH G. O'GRADY
President—ASTM.

> Without the expertise developed through the intramural programs at NIST, the extramural programs could out achieve the desired results to help American industry improve its competitive position in the world marketplace.
>
> DOC answer to Committee question for the record.

The Committee concludes that the intramural programs are invaluable and their funding levels must be sufficient to allow the Agency to fulfill its goal. Therefore, the Committee strongly recommends full funding for the intramural program in 1992.

31. NIST PERSONNEL SYSTEM

Committee View

The Committee is pleased with the success, over the past five years, of the Demonstration Project at NIST. It has met the expectations of the Committee when the authorizing legislation was first passed. Moreover, the Committee expects that the project will be extended.

The following is a listing of the successes of the Demonstration Project:

NIST Demonstration Project Successes

Specific instances of Project successes are presented below, organized by Project interventions.

Recruiting allowances.—Under the Project, a recruiting allowance of up to $10,000 may be paid, in a lump sum or in increments, to candidates for hard-to-fill positions. So far, 18 recruitment allowances, averaging slightly over $5000, have been paid. The policy is that a recruitment allowance will not be paid unless it is needed to attract a well-qualified candidate; therefore, all recruitment allowances have been effectively applied. Examples are the following:

> An allowance of $6000 paid to a Ph.D. physical scientist from a private firm to take a position with the Building Materials Division. Because of his high salary at the firm and because of the high cost of housing in Montgomery County, the cash bonus was essential and effective.
>
> An allowance of $2000 granted by the Ionizing Radiation Division was instrumental in attracting one of the few black Ph.D. physicists to enter the job market in 1988.
>
> The Electronics Technology Division used a recruiting allowance of $10,000 to attract Ph.D. electronics engineer for the Lightwave initiative.

Flexible entry salaries of pay banding.—Under the Project pay band system, an entry salary for a new hire may be set anywhere in the entry pay band, which also offers a broader range of pay than grades. This flexibility allows managers to negotiate more effectively with highly qualified candidates and compete more successfully in the market. Under the former system, entry salaries had to be set at step 1 of the entry grade and could be set at a higher step only after approval by OPM. Examples of the successful application of flexible entry salaries are the following:

> Three Ph.D. mathematical statisticians hired by the Computing and Applied Mathematics Laboratory after a national

search in a highly competitive market. The flexible entry pay of pay banding allowed the Laboratory to compete successfully against DuPont in one hire, against a west coast environmental studies office in the third.

A Ph.D. mechanical engineer who graduated from the California Institute of Technology received an offer from a private firm higher than the initial offer made by the NIST Fire Suppression Group. With the flexibility entry pay authority, NIST was able to raise the offer to a level acceptable to the candidate.

A female M.A. fire prevention engineer was hired into the Fire Measurement and Research Division with the help of flexible entry pay.

The perennial problem in finding an adequate number of security guards was alleviated by flexible entry salaries, and during the war with Iraq, when security at federal agencies was suddenly increased, flexible entry salaries were essential in hiring temporary guards.

A computer scientist was hired into the Fire Measurement and Research Division with the help of flexible entry pay.

An engineering technician with an associate degree from Capital College was hired into the Fire Science and Engineering Division with the help of flexible entry pay.

A physical scientist and a physicist with scarce technical specialties were hired into the Asbestos Analysis Project with the help of higher-than-minimum entry salaries.

A leading biologist retiring early from Ciba Corning with 35 patents and over 100 publications hired into the Biotechnology Division. Flexible entry pay enabled the Division to compete successfully against other offers.

A computer scientist was hired into the Computer Security Division after the flexible entry pay allowed the hiring official to better an offer from the private sector.

A female Ph.D. computer specialist was hired into the Information Systems Engineering Division with the help of a higher-than-minimum entry salary.

A Ph.D. theoretician in chemistry was recruited and hired by the Molecular Theory Group of the Molecular Physics Division with the help of flexible entry salary.

Two Ph.D. physicists with unusual backgrounds in precision measurement were recruited quickly to fill urgent needs in the Quantum Metrology Division with the help of negotiated entry salaries.

Flexible entry salary helped the Ionizing Radiation Division hire one of the few black Ph.D. physicists to enter the job market in 1988.

Agency-based hiring.—At issue before the project was that NIST had to go through OPM registers before filling a position, unless the position was an engineering or higher-level physicist position that qualified for direct-hire. This led to three problems: (1) time delay; (2) the lack of qualified candidates on OPM registers; and (3) blocked registers, preventing the filling of a position by name request with a highly-qualified candidate discovered by NIST.

Agency-based hiring gives NIST authority to establish its own registers, rather than having to go through OPM registers. This saves time, even when the action does not qualify for the direct-hire method. Under the agency-based process, NIST personnelists examine qualifications and rate and rank candidates just as OPM examiners do, but NIST can complete the process quicker.

An example of the successful application of the agency-based process is the following:

> A female Ph.D. computer specialist and a female mathematician hired into the Computing and Applied Mathematics Laboratory; without agency-based hiring, these appointments would have been prevented by blocked registers.

Direct hiring.—NIST has expanded the direct-hiring process under the project by justifying the use of direct-hire for any hard-to-fill scientific or engineering position or any position in an occupation for which OPM pays a "special rate." Direct-hire allows NIST to fill a position with a qualified candidate without going through the formal posting and competitive process. NIST may choose to post the position and conduct an intensive search for candidates, but when a good candidate is found, the candidate may be hired immediately. An example is the following:

> Three Ph.D. mathematical statisticians hired by the Computing and Applied Mathematics Laboratory after a national search in a highly competitive market. As soon as each candidate was found, an immediate offer was made and the candidate was hired within the time window established by the candidate.

Paid advertising.—Before the project it was necessary to demonstrate that unpaid methods were not successful in attracting candidates before paid advertising could be used. This requirement often delayed filing a position for which paid methods were necessary to reach the most productive sources. Under the project, paid advertising may be used at the very beginning of the recruitment effort.

Many of the scientific and engineering hires cited under "flexible entry salaries" were facilitated by paid advertising.

More flexible pay for current employees through pay banding and pay for performance.—To improve the organization's ability to retain top performers and employees with vital and scarce skills, the project provides several tools:

1. Annual performance increases.
2. Higher potential performance increases.
3. Potential for quicker promotions.
4. Higher potential pay increases upon promotion.

An example of the applications of these tools is the following:

> The Systems and Software Technology Division was able to retain an outstanding computer scientist through the higher promotion and performance pay increases allowed by the project.

32. NATIONAL QUALITY COUNCIL

Committee View

The Council, as authorized by this bill, would coordinate initiatives launched around the country in Total Quality Mangement

(TQM), a widely used strategy for lowering costs, increasing the value of products and services, building customer loyalty, and strengthening competitiveness. THe Council would help craft national quality goals and elevate the visibility of TQM among the nation's business, education, political and other leaders.

The Council would also organize a White House Conference on Quality Performance (or Management) in the American Workplace. In addition to its reliance on donated funds, the Council could authorize the levying of such fees on attendees as it deems appropriate to cover the full cost of the conference. The Council would be expected to exercise its best discretion as to whether to conduct one or more (e.g. annual) conference(s).

Membership of the Council would consist of 17 to 20 representatives from manufacturing and service industries, not-for-profit quality organizations, education, labor, professional societies, local and state government, the Federal government, and the Malcolm Baldrige National Quality Award Foundation. The Committee believes that at least one representative from small business (a firm with less than $25 million in annual sales) should be included amoung the members selected from manufacturing and service industries. The Council member selected to represent professional societies need not be affiliated with an organization principally concerned with the field of TQM.

The Executive Directorship of the Council should not—even on a temporary basis—be assigned as a collateral duty to an existing organization principally concerned with TQM activities. The Council should be separate and autonomous from existing TQM organizations and the Malcolm Baldrige Foundation.

33. BOEHLERT-ROCKEFELLER STATE TECHNOLOGY EXTENSION PROGRAM

Committee View

The Committee continues to strongly support the Boehlert Rockefeller State Technology Extension Program (STEP), which was created in the Omnibus Trade and Competitiveness Act of 1988. This bill authorizes funding to extend the life of the program.

Many of the most innovative ideas for improving the nation's competitiveness come out of the states, which have an intimate familiarity with the needs of their industries. STEP is designed to encourage such innovative thinking and to facilitate the transfer of federally developed technology and know-how to smaller manufacturers. Congress has increasingly acknowledged the need for such activity. The Defense Authorization Act of 1990, for example, calls for the Department of Defense to work more closely with states and contractors to modernize smaller suppliers. The law specifically mentions STEP as one of the best avenues to acccomplish this goal.

In STEP's first year of operation, NIST entered into cooperative agreements with nine states to support a wide range of activities, including extending the reach of the Manufacturing Technology Centers, which share some of the same goals as STEP. In Fiscal Year 1991, NIST intends to award funds to help states coordinate existing federal and state extension activities. NIST has also run a wide variety of workshops for manufacturers and states and has set

up an electronic bulletin board with STEP monies. The Committee expects to see the Program expanded in Fiscal Year 1992 so that funds can once again be awarded for new extension activities, including multi-year activities, and so that the other STEP initiatives can be expanded.

V. Committee Oversight Activities

Pursuant to rule XI, clause 2(l)(3) of the Rules of the House of Representatives, and under the authority of rule X, clause 2(b)(1) and clause 3(f), the following oversight actitvities were undertaken.

Committee oversight of the National Institute of Standards and Technology from March 1988 to March 1991 has consisted primarily of hearings; inspection of NIST facilities at Gaithersburg, Maryland and Boulder, Colorado; staff attendance of NIST meetings and briefings; and informal discussion between Committee Members, staff and NIST representatives.

Committee oversight of the National Technical Information Service from March 1988 to March 1991 has consisted primarily of hearings; a site visit to the NTIS facility at Springfield, Virginia in January 1989 and January 1991; informal discussion between Committee staff and NTIS representatives; and meetings with the Department of Commerce Inspector General.

The Committee's oversight findings and recommendations are contained in the body of the Report.

HEARINGS

Authorization hearings on the FY 1990 Department of Commerce budget request were held on March 7, 8, and 23, 1989 in Washington, D.C. Testimony was given by the Acting Under Secretary for Technology, Dr. Ernest Ambler; the Director of the National Technical Information Service, Dr. Joseph Caponio; and the Acting Director of NIST, Mr. Ray Kammer, accompanied by the five laboratory directors of the NIST Gaithersburg facility. Other witnesses included Mr. William D. Manley, the Chairman of the Visiting Committee on Advanced Technology, and expert witnesses from academia, professional societies, and the business community. Authorization hearings on the FY 1991 Department of Commerce budget request were held on February 6, 21, and 22 and March 8, 1990. Testimony was given by Deputy Secretary Thomas Murrin, Deputy Under Secretary Lee Mercer, Assistant Secretary Deborah Wince-Smith, NIST Director John Lyons, NTIS Director Joseph Caponio, all of the Department of Commerce, and all the Department of Commerce. Other witnesses included a series of private sector experts on the various components of the technology administration.

Authorization hearings on the FY 1992 Department of Commerce budget request were held on February 26 and 27, 1991. Testimony was given by the Under Secretary for Technology, Dr. Robert M. White; the Director of the National Institute of Standards and Technology, Dr. John W. Lyons; the Assistant Secretary for Technology Policy, Deborah L. Wince-Smith; and the Director of the National Technical Information Service, Dr. Joseph F. Caponio, and all of the Department of Commerce. Other witnesses included Dr.

Arden L. Bement, the Chairman of the Visiting Committee on Advanced Technology, and expert witnesses from the private sector.

Topical hearings related to the bill were held on the following topics: Implementation of the Computer Security Act, March 21, 1989 (Vol. #101-18); High Definition Television, March 22, 1989 (Vol. #101-12); Malcolm Baldrige National Quality Award, April 18, 1989 (Vol. #101-8), March 20, 1990 (Vol. #101-119), and April 22, 1991 (Vol. #102-); Stimulating Investment in R&D, May 18, 1989 (Vol. #101-29); Federal Technology Transfer Act, June 1, 1989 (Vol. #101-25); U.S. Supercomputer Industry, June 20, 1989 (Vol. #101-45); Leveraged Buyouts, July 13, 1989 (Vol. #101-36); Joint Production Ventures, September 19, 1989 (Vol. #101-58); High Performance Computing, October 3, 1989 (Vol. #101-64) and March 14 and 15, 1990 (Vol. #101-15); Federal Scientific and Technical Information Policy, October 10, 1989 (Vol. #101-63); What Is a U.S. Company?, November 1, 1989 (Vol. #101-67), and OSTP Critical Technology List, April 25, 1991 (Vol. #102-).

VI. Oversight Findings and Recommendations by the Committee on Government Operations.

No findings and recommendations on oversight activity have been submitted by the Committee on Government Operations for inclusion in the report, pursuant to rule X, clause 2(b)(2), and rule XI, clause 2(l)(3)(d) of the Rules of the House of Representatives.

VII. Budget Analysis and Projection

The Act provides for new authorization rather than the new budget authority or tax expenditures. Consequently, the provisions of section 308(a) of the Congressional Budget Act are not applicable.

VIII. Cost Estimate of Congressional Budget Office

U.S. Congress,
Congressional Budget Office,
Washington, DC, May 10, 1991.

Hon. George E. Brown, Jr.,
Chairman, Committee on Science, Space, and Technology,
House of Representatives, Washington, DC.

Dear Mr. Chairman: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 1989, the American Technology Preeminence Act of 1991. Enactment of H.R. 1989 could result in direct spending over the fiscal year 1992-1996 period, but any pay-as-you-go scoring would be negligible. Because the bill could affect direct spending, we have enclosed the cost estimate required by clause 8 of House Rule XXI.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

Robert F. Hale
(for Robert D. Reischauer, Director).

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: H.R. 1989.

2. Bill title: The American Technology Preeminence Act of 1991.

3. Bill status: As ordered reported by the House Committee on Science, Space, and Technology on May 1, 1991.

4. Bill purpose: H.R. 1989 would authorize appropriations for fiscal years 1991 and 1992 for technology programs of the Department of Commerce. It would authorize specific sums for Technology Administration and for the National Institute of Standards and Technology's (NIST) intramural and extramural research and development efforts. The bill also would provide such sums as may be necessary for adjustments in salary, retirement, and other employee benefits that may be provided for by law.

This bill would create a new technology commercialization loan program, earmarking $10 million of the 1992 authorization for loan subsidies. These loans would bear interest at the government's cost of borrowing plus 2 percent. The bill also would enable the federal government to recoup investments made under the Advanced Technology Program (ATP), based on criteria to be determined by the Secretary of Commerce.

H.R. 1989 would establish technology advisory boards on capital costs, procurement, and high resolution information systems, authorizing such sums as may be necessary in fiscal years 1991 and 1992. It also would modify the functions of the Federal Coordinating Council for Science, Engineering, and Technology.

The bill would create a National Quality Council to promote total quality management by organizing White House conferences and other activities. Private and other donations received by the council would be deposited in a special trust fund and could be spent by the council without further appropriation.

The bill would call for numerous studies, reports, and regulations to be prepared by the Department of Commerce, the Office of Science and Technology Policy (OSTP), and National Research Council. Title VI would direct NIST to develop standards for use by the Environmental Protection Agency (EPA) in implementing a voluntary accreditation program for lab analyses of lead and in evaluating techniques for lead detection and abatement.

Finally, H.R. 1989 would authorize directors of federal laboratories and heads of federal entities to give excess research equipment to educational or nonprofit organizations, transferring title as a gift.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995	1996
Direct spending: National Quality Council		(1)	(1)	(1)	(1)	(1)
Authorizations:						
Technology Administration	6.5	10.2				
NIST: Intramural	166.2	213.6				
NIST: Extramural [2]	117.0	127.7				
Other authorizations [3]		10.6	4.1	4.1	4.2	2.3
Total estimated authorizations	289.7	362.1	4.1	4.1	4.2	4.3

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995	1996
Less: Existing appropriation	216.8					
Net additional authorizations	73.0	362.1	4.1	4.1	4.2	2.3
Estimated outlays	0.7	250.2	108.6	57.4	28.6	3.3

[1] Net costs of receipts in any year would be negligible.
[2] This includes the $10 million authorized for subsidies for technology commercialization loans.
[3] Includes the costs of extending the Federal Lab Consortium ($1.6 million in fiscal year 1992 and slightly higher amounts in future years), administering the Malcolm Baldridge Awards, conducting studies, and supporting advisory councils.

In addition to the costs shown in the above table, there could be added to the government from the provision allowing directors of federal agencies and laboratories to give excess research equipment to educational or nonprofit groups. These costs would be incurred by other federal agencies that would otherwise make use of the donated items. CBO does not have sufficient information to estimate this cost.

The costs of this bill fall within budget functions 050, 370 and 800.

Basis of estimate: This estimate assumes that the full amount authorized will be appropriated, with the increases for fiscal year 1991 assumed to be funded by a supplemental appropriation enacted by August 1. The outlay rate for NIST's extramural account allocates 5 percent of the program funding to administrative expenses. Outlays for other programs are based on historical spending patterns. The estimate for 1992 includes an assumed pay increase of 4.2 percent in January 1992.

Outlays for the technology commercialization loans are estimated according to the credit reform procedures delineated in the Budget Enforcement Act of 1990. Thus, outlays from the $10 million subsidy appropriation are assumed to occur according to the projected drawdown rate for the loans. The Office of Management and Budget would determine the volume of loans that this subsidy would support. The amount available for lending would depend on several factors, including the financial risk borne by the government. If, for example, the default rate over time were to be 50 percent, the $10 million subsidy could support nearly $40 million in loans with a 10-year term. At a higher or faster rate of defaults, fewer loans could be made; at a lower or slower rate, loan volume could increase.

Provisions allowing the government to recoup investments made under the ATP program are not expected to have a significant budgetary impact over the 1992–1996 period. Agency officials indicated that it could take three to four years to convert successful ATP projects into commercial products. Because most of the existing awards extend for two-to-five years, it is unlikely that any funds could be recovered by 1996.

CBO estimates that the studies, advisory boards, and other actions required by the bill would add $10.6 million to the cost of bill in fiscal year 1992, and smaller sums thereafter. This estimate includes about $2.5 million in 1992 and another $2.0 million annually for the next three years for developing lead standards for EPA. Based on information from the Commerce Department, CBO esti-

mates that the critical industries report could cost $3 million, including contract support.

Also included in the $10.6 million is $0.5 million in 1992 for startup costs of the National Quality Council. The council's net cost to the government is difficult to predict, because it depends on the scale of its activities and nonfederal funding. According to the committee report, private donations and fees are intended cover most of the council's expenses, but federal appropriations on a "temporary emergency basis" are not excluded. CBO estimates that the Quality Council would need an appropriation of about $0.2 million in 1992 to launch its staffing and fund-raising efforts. Assuming that its first White House conference were to be held in 1993 at a cost of about $1 million, we estimate that an appropriation of about $0.3 million would be needed in 1992 to get it underway, because of the lead time needed to generate donations and fees. The ultimate cost to the government would depend on the extent to which donations and fees actually cover expenses.

Finally, allowing directors of federal agencies and laboratories to give educational or nonprofit groups excess research equipment could result in additional costs to the federal government, but CBO cannot quantify that potential cost at this time. Under current law, excess equipment can be claimed by other federal agencies before becoming available for donation or sale. After other federal agencies have had the opportunity to claim excess equipment, the General Services Administration can donate the items to state agencies that in turn pass them along to eligible organizations. This provision of the bill could be costly if agency heads give to educational or nonprofit groups equipment that would have been selected for use by other federal agencies, because the agencies would have to purchase some new equipment instead. Such purchases would come from appropriated funds.

If, on the other hand, agency heads would only donate equipment that would not be used by any other federal agency, then this provision would not result in significant costs. In this case, the amount and type of equipment these organizations receive would be the same as under current practice, except that they would receive it earlier. In addition, the agencies making the donation would incur the administrative costs of transferring the equipment that otherwise would have been paid for by the state agencies that channel donations to educational and nonprofit organizations.

Other provisions in the bill are not expected to result in a significant cost to the federal government.

6. Pay-as-you-go considerations: One provision in H.R. 1989 potentially could affect pay-as-you-go scoring. The National Quality Performance Trust Fund established by Section 507 could affect direct spending because additional receipts would be generated and the expenditure of those receipts by the National Quality Council would not be subject to appropriations. Both the receipts and the spending would be counted for pay-as-you-go scoring. Because the council is expected to rely on the trust fund as its primary source of funding, there is likely to be little, if any lag, between the time receipts are credited and the time they are spent. Under these circumstances, over time there would be no net impact on direct spending, and the effect in any one year would be negligible.

7. Estimated cost to State and local governments: None.
8. Estimate comparison: None.
9. Previous CBO estimate: None.
10. Estimate prepared by: Marjorie Miller and Barbara Hollinshead.
11. Estimate approved by: C.G. Nuckols, for James L. Blum, Assistant Director for Budget Analysis.

CONGRESSIONAL BUDGET OFFICE ESTIMATE [1]

The applicable cost estimate of this act for all purposes of sections 252 and 253 of the Balanced Budget and Emergency Deficit Control Act of 1985 shall be as follows:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Change in outlays	0	(1)	(1)	(1)	(1)
Change in receipts		(2)	(2)	(2)	(2)

[1] Net outlays in any year would be negligible.
[2] Not applicable.

IX. Effect of Legislation on Inflation

The anticipated inflationary impact of this legislation has been assessed in accordance with rule XI, clause 2(l)(4) of the Rules of the House of Representatives. No inflationary effect on prices and costs in the national economy is expected.

Expenditures by the National Institute of Standards and Technology (NIST) are, with few exceptions, for basic and applied measurements and standards related research within NIST laboratories.

These enhanced R&D capabilities will encourage expansion of existing links between NIST scientists and other laboratories and industries. This will provide for more effective transfer of innovative research findings into industrial productivity, and competitiveness will be improved.

A number of economic studies have indicated that basic and applied research, development, and innovation have made direct contributions to economic growth, increased productivity, and a favorable international trade balance. Increased productivity and comparative advantages in international trade are generally regarded as very effective measures in combating inflation.

While there is a time lag and a degree of uncertainty in the innovation process, from the conception of an idea in a research setting, to the commercialization of a new product or process, the importance of research and development in the innovation process and its ultimate impact upon industrial productivity cannot be denied. This has been a major premise in the establishment, continued support, and recognition of the contribution to society of NIST.

[1] An estimate of H.R. 1989 as ordered reported by the House Committee on Science, Space, and Technology on May 1, 1991. This estimate was transmitted by the Congressional Budget Office on May 10, 1991.

X. Changes in Existing Law Made by the Bill, As Reported

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

Omnibus Trade and Competitiveness Act of 1988

* * * * * * *

TITLE V—FOREIGN CORRUPT PRACTICES AMENDMENTS; INVESTMENT; AND TECHNOLOGY

* * * * * * *

Subtitle B—Technology

PART I—TECHNOLOGY COMPETITIVENESS

* * * * * * *

Subpart B—Technology Extension Activities and Clearinghouse on State and Local Initiatives

SEC. 5121. TECHNOLOGY EXTENSION ACTIVITIES.

(a) * * *

(b) Technology Extension Services.—(1) * * *

* * * * * * *

[(5) Cooperative agreements entered into under paragraph (2) shall terminate no later than September 30, 1991.]

* * * * * * *

Subpart D—Technology Reviews

* * * * * * *

SEC. 5142. SEMICONDUCTOR RESEARCH AND DEVELOPMENT.

(a) * * *

* * * * * * *

(f) Authorization of Appropriations.—There are authorized to be appropriated to carry out the purposes of this section such sums as may be necessary for the fiscal years 1988, 1989, [and 1990] *1990, 1991, and 1992.*

* * * * * * *

Subtitle E—Trade Data and Studies

* * * * * * *

PART II—STUDIES

* * * * * * *

SEC. 5422. STUDY AND REPORT BY THE ADVISORY COUNCIL ON FEDERAL PARTICIPATION IN SEMATECH.

(a) STUDY AND REPORT.—Not later than February 1, 1989, and annually thereafter for each fiscal year in which appropriated funds are expended for Sematech the Advisory Council on Federal Participation in Sematech established under section 273(a) of the National Defense Authorization Act for fiscal years 1988 and 1989 (15 U.S.C. 4603(a); Public Law 100-180) shall conduct a study and submit a report to the Governmental Affairs Committee and the Armed Services Committee of the Senate and to appropriate committees of the House of Representatives concerning Federal participation in Sematech. The study and report shall be conducted under the direction of the Under Secretary of Commerce for [Economic Affairs] *Technology*.

* * * * * * *

SECTION 273 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEARS 1988 AND 1989

SEC. 273. ADVISORY COUNCIL.

(a) * * *

* * * * * * *

(c) MEMBERSHIP.—The Council shall be composed of 12 members as follows:

(1) * * *

* * * * * * *

(4) The Under Secretary of Commerce for [Economic Affairs] *Technology*.

* * * * * * *

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT

* * * * * * *

ESTABLISHMENT, FUNCTIONS, AND ACTIVITIES

SEC. 2. (a) * * *

* * * * * * *

(d) In carrying out the extramural funding programs of the Institute, including the programs established under sections 25, 26, and 28 of this Act, the Secretary may retain reasonable amounts of any funds appropriated pursuant to authorizations for these programs in order to pay for the Institute's management of these programs.

* * * * * * *

SEC. 14. Within the limits of funds which are appropriated for the Institute, the Secretary of Commerce is authorized to undertake such construction of buildings and other facilities and to make sure improvements to existing buildings, grounds, and other facilities occupied or used by the Institute as are necessary for the proper and efficient conduct of the activities authorized herein[:

Provided, That no improvement shall be made nor shall any building be constructed under this authority at a cost in excess of $250,000 unless specific provision is made therefor in the appropriation concerned.**]**.

* * * * * * *

SEC. 17. (a) * * *

* * * * * * *

(d) For any scientific and engineering disciplines for which there is a shortage of suitably qualified and available United States citizens and nationals, the Secretary is authorized to recruit and employ in scientific and engineering fields at the Institute foreign nationals who have been lawfully admitted to the United States for permanent residence under the Immigration and Nationality Act and who intend to become United States citizens. Employment of a person under this paragraph shall not be subject to the provisions of title 5, United States Code, governing employment in the competitive service, or to any prohibition in any other Act against the employment of aliens, or against the payment of compensation to them.

SEC. 18. The Director is authorized to expend up to 1 per centum of the funds appropriated for activities of the Institute in any fiscal year, as the Director may deem desirable, for awards of research fellowships and other forms of financial assistance to students at institutions of higher learning within the United States who show promise as present or future contributors to the mission of the Institute**[**.**]** *, and to United States citizens for research and technical activities on Institute programs.* The selection of persons to receive such fellowships and assistance shall be made on the basis of ability and of the relevance of the proposed work to the mission and programs of the Institute.

* * * * * * *

ADVANCED TECHNOLOGY PROGRAM

SEC. 28. (a) * * *

(b) Under the Program established in subsection (a), and consistent with the mission and policies of the Institute, the Secretary, acting through the Director, and subject to subsections (c) and (d), may—

(1) aid United States joint research and development ventures (hereafter in this section referred to as "joint ventures") (which may also include universities and independent research organizations), including those involving collaborative technology demonstration projects which develop and test prototype equipment and processes, through—

(A) provision of organizational and technical advice; and

(B) participation in such joint ventures *through grants, cooperative agreements, or contracts,* if the Secretary, acting through the Director, determines participation to be appropriate, which may include (i) partial start-up funding, (ii) provision of a minority share of the cost of such joint ventures for up to 5 years, and (iii) making available equipment, facilities, and personnel,

provided that emphasis is placed on areas where the Institute has scientific or technological expertise, on solving generic problems of specific industries, and on making those industries more competitive in world markets;

(2) *provide grants to and* enter into contracts and cooperative agreements with United States businesses, especially small businesses, and with independent research organizations, provided that emphasis is placed on applying the Institute's research, research techniques, and expertise to those organizations' research programs;

* * * * * * *

(d) When entering into contracts or making awards under subsection (b), the following shall apply:

(1) * * *

[(2) In the case of joint ventures, the Program shall not make an award unless, in the judgement of the Secretary, acting through the Director, Federal aid is needed if the industry in question is to form a joint venture quickly.]

(2) In the case of joint ventures, the Program shall not make an award unless the award will facilitate the formation of a joint venture or the initiation of a new research and development project by an existing joint venture.

(3) No Federal contract or [cooperative agreement] *award* under subsection (b)(2) shall exceed $2,000,000 over 3 years, or be for more than 3 years unless a full and complete explanation of such proposed award, including reasons for exceeding these limits, is submitted in writing by the Secretary to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives. The proposed contract or [cooperative agreement] *award* may be executed only after 30 calendar days on which both Houses of Congress are in session have elapsed since such submission. Federal funds made available under subsection (b)(2) shall be used only for direct costs and not for indirect costs, profits, or management fees of the contractor.

* * * * * * *

[(7) The Federal Government shall be entitled to a share of the licensing fees and royalty payments made to and retained by any business or joint venture to which it contributes under this section in an amount proportional to the Federal share of the costs incurred by the business or joint venture as determined by independent audit.]

(7) Each agreement with any business or joint venture that receives an award under this section shall specify a test, as mutually agreed to by the Secretary and the recipient, for determining whether the venture or project shall be deemed to have been a commercial success and providing that in such event there will be appropriate recoupment to the Federal Government. Such recoupment shall not exceed the principal amount, with reasonable interest, of any monetary awards provided to such recipient under the Program. The Secretary shall issue regula-

tions establishing guidelines for agreement provisions stating the circumstances under which a venture or project will be found to be a commercial success and the general procedures and terms for recoupment in such cases.

* * * * * * *

(10) A company shall be eligible to receive financial assistance under this section only if—

(A) the Secretary finds that the company's participation in the Program would be in the economic interest of the United States, as evidenced by investments in the United States in research, development, and manufacturing (including, for example, the manufacture of major components or subassemblies in the United States); significant contributions to employment in the United States; and agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology (taking into account the goals of promoting the competitiveness of United States industry), and to procure parts and materials from competitive suppliers; and

(B) either—

(i) the company is a United States-owned company; or

(ii) the Secretary finds that the company has a parent company which is incorporated in a country which affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those authorized under this Act; affords to United States-owned companies local investment opportunities comparable to those afforded to any other company; and affords adequate and effective protection for the intellectual property rights of United States-owned companies.

(11) Grants, contracts, and cooperative agreements under this section shall be designed to support projects which are high risk and which have the potential for eventual substantial widespread commercial application. In order to receive a grant, contract, or cooperative agreement under this section, a research and development entity shall demonstrate to the Secretary the requisite ability in research and technology development and management in the project area in which the grant, contract, or cooperative agreement is being sought.

(12)(A) Title to any intellectual property arising from assistance provided under this section shall vest in a company or companies incorporated in the United States. The United States may reserve a nonexclusive, nontransferable, irrevocable paid-up license, to have practiced for or on behalf of the United States, in connection with any such intellectual property, but shall not, in the exercise of such license, publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a company incorporated in the United States, until the expiration of the

first patent obtained in connection with such intellectual property.

(B) For purposes of this paragraph, the term "intellectual property" means an invention patentable under title 35, United States Code, or any patent on such an invention.

(C) Nothing in this paragraph shall be construed to prohibit the licensing to any company of intellectual property rights arising from assistance provided under this section.

[(e) As used in this section, the term "joint research and development venture" has the meaning given to such term in section 2(a)(6) of the National Cooperative Research Act of 1984 (15 U.S.C. 4301(a)(6)).]

(e) The Secretary may, 30 days after notice to Congress, suspend a company or joint venture from receiving continued assistance under this section if the Secretary determines that the company, the country of incorporation of the company or a parent company, or the joint venture has failed to satisfy any of the criteria set forth in subsection (d)(10), and that it is in the national interest of the United States to do so.

(f) When reviewing private sector requests for Department of Commerce assistance to proposed joint ventures, and when monitoring the progress of assisted joint ventures, the Secretary shall, as appropriate, coordinate with the Secretary of Defense and other senior Federal officials to ensure cooperation and coordination in Federal technology programs and to avoid unnecessary duplicaiton of effort. The Secretary is authorized to work with the Secretary of Defense and other appropriate Federal officials to form interagency working groups or special project offices to coordinate Federal technology activities.

(g) In order to analyze the need for and value of joint ventures in specific technical fields, to evaluate any joint ventures requesting the Secretary's assistance, or to monitor the progress of any joint venture which receives Federal funds pursuant to the authorizations contained in this section, the Secretary, the Under Secretary, and the Director may organize and seek advice from such industry advisory committees as they consider useful and appropriate.

(h) Up to 10 percent of the funds appropriated for carrying out this section may be used for standards development and technical activities by the Institute in support of the purposes of this section.

(i) As used in this section—

(1) the term high-resolution information systems means equipment and techniques required to create, transmit, receive, display, process, record, store, recover, and play back high resolution images and accompanying sound;

(2) the term "advanced manufacturing technology" means numerically-controlled machine tools, robots, automated process control equipment, computerized flexible manufacturing systems, associated computer software, and other technology for improving manufacturing and industrial processes;

(3) the term "advanced materials" means a field of research including the study of composities, ceramics, metals, polymers, superconducting materials, materials produced through biotechnology, and materials production technologies, including coated

systems, that provide the potential for significant advantages over existing materials;

(4) the term "joint venture" means any group of activities, including attempting to make, making, or performing a contract, by two or more persons for the purpose of—

(A) theoretical analysis, experimentation, or systematic study of phenomena or observable facts;

(B) the development or testing of basic engineering techniques;

(C) the extension of investigative finding or theory of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, prototypes, equipment, materials and processes;

(D) the collection, exchange, and analysis of research information;

(E) the production of any product, process, or service; or

(F) any combination of the purposes specified in subparagraphs (A), (B), (C), (D), and (E),

and may include the establishment and operation of facilities for the conducting of research, the conducting of such venture on a protected and proprietary basis, and the prosecuting of applications for patents and the granting of licenses for the results of such venture;

(5) the term "United States-owned company" means a company that has majority ownership or control by individuals who are citizens of the United States; and

(6) the term "foreign-owned company" means a company other than a United States-owned company.

* * * * * * *

Fair Packaging and Labeling Act

* * * * * * *

REQUIREMENTS AND PROHIBITIONS

Sec. 4. (a) No person subject to the prohibition contained in section 3 shall distribute or cause to be distributed in commerce any packaged consumer commodity unless in conformity with regulations which shall be established by the promulgating authority pursuant to section 6 of this Act which shall provide that—

(1) * * *

(2) The net quantity of contents (in terms of [weight,] *mass,* measure or numerical count) shall be separately and accurately stated in a uniform location upon the principal display panel of that label, *using the most appropriate units of the SI metric system as the primary system of measuring quantity;*

(3) The separate label statement of net quantity of contents appearing upon or affixed to any package—

(A)(i) if on a package [containing] *that also displays the avoirdupois system of measure* less than four pounds or one gallon and labeled in terms of weight or fluid measures,

shall, unless subparagraph (ii) applies and such statement is set forth in accordance with such subparagraph, be expressed both in ounces (with identification as to avoirdupois or fluid ounces), and, if applicable, in pounds for weight units, with any remainder in terms of ounces or common or decimal fractions of the pound; or in the case of liquid measure, in the largest whole unit (quarts, quarts and pints, or pints, as appropriate) with any remainder in terms of fluid ounces or common or decimal fractions of the pint or quart;

(ii) if on a random package *that also displays the avoirdupois system of measure,* may be expressed in terms of pounds and decimal factions of the pound carried out to not more than two decimal places;

(iii) if on a package labeled in terms of linear measure *that also displays the avoirdupois system of measure,* shall be expressed both in terms of inches and the largest whole unit (yards, yards and feet, or feet, as appropriate) with any remainder in terms of inches or common or decimal fractions of the foot or yard;

(iv) if on a package labeled in terms of measure of area *that also displays the avoirdupois system of measure* shall be expressed both in terms of square inches and the largest whole square unit (square yards, square yards and square feet, or square feet, as appropriate) with any remainder in terms of square inches or common of decimal fractions of the square foot or square yard;

* * * * * * *

(4) The label of any package of a consumer commodity which bears a representation as to the number of servings of such commodity contained in such package shall bear a statement of the net quantity (in terms of [weight] *mass,* measure, or numerical count) of each such serving.

(5) For purposes of paragraph (3)(A)(ii) of this subsection the term "random package" means a package which is one of a lot, shipment, or delivery of packages of the same consumer commodity with varying [weights] *masses,* that is, package with no fixed [weight] *mass* pattern.

(b) No person subject to the prohibition contained in section 3 shall distribute or cause to be distributed in commerce any packaged consumer commodity if any qualifying words or phrases appear in conjunction with the separate statement of the net quantity of contents required by subsection (a), but nothing in this subsection or in paragraph (2) of subsection (a) shall prohibit supplemental statements, at other places on the package, describing in nondeceptive terms the net quantity of contents: *Provided,* That such supplemental statements of new quantity of contents shall not include any term qualifying a unit of [weight] *mass,* measure, or count that tends to exaggerate the amount of the commodity contained in the package.

ADDITIONAL REGULATIONS

Sec. (a) * * *

* * * * * * *

(c) Whenever the promulgating authority determines that regulations containing prohibitions or requirements other than those prescribed by section 4 are necessary to prevent the deception of consumers or to facilitate value comparisons as to any consumer commodity, such authority shall promulgate with respect to that commodity regulations effective to—

(1) establish and define standards for characterization of the size of a package enclosing any consumer commodity, which may be used to supplement the label statement of net quantity of contents of packages containing such commodity, but this paragraph shall not be construed as authorizing any limitation on the size, shape, [weight] *mass,* dimensions, or number of packages which may be used to enclose any commodity.

* * * * * * *

(d) Whenever the Secretary of Commerce determines that there is undue proliferation of the [weights] *masses*, measures, or quantities in which any consumer commodity or reasonably comparable consumer commodities are being distributed in packages for sale at retail and such undue proliferation impairs the reasonable ability of consumers to make value comparisons with respect to such consumer commodity or commodities, he shall request manufacturers, packers, and distributors of the commodity or commodities to participate in the development of a voluntary product standard for such commodity or commodities under the procedures for the development of voluntary products standards established by the Secretary pursuant to section 2 of the Act of March 3, 1901 (31 Stat. 1449, as amended; 15 U.S.C. 272). Such procedures shall provide adequate manufacturer, packer, distributor, and consumer representation.

* * * * * * *

STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980

* * * * * * *

SEC. 4. DEFINITIONS.

As used in this Act, unless the context otherwise requires, the term—

(1) * * *

* * * * * * *

(8) "Federal agency" means any executive agency as defined in section 105 of title 5, United States Code, and the military departments as defined in section 102 of such title, *as well as any agency of the legislative branch of the Federal Government.*

* * * * * * *

SEC. 5. COMMERCE AND TECHNOLOGICAL INNOVATION.

(2) * * *

* * * * * * *

(c) DUTIES.—The Secretary, through the Under Secretary, as appropriate, shall—

(1) * * *

* * * * * * *

(13) serve as a focal point for discussions among United States companies on topics of interest to industry and labor, including discussions regarding manufacturing and discussions regarding emerging technologies;

[(13)] *(14)* consider government measures with the potential of advancing United States technological innovation and exploiting innovations of foreign origin; and

[(14)] *(15)* publish the results of studies and policy experiments.

* * * * * * *

SEC. 11. ULTIZATION OF FEDERAL TECHNOLOGY.

(a) * * *

* * * * * * *

(e) ESTABLISHMENT OF FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER.—(1) * * *

* * * * * * *

(7)(A) Subject to subparagraph (B), an amount equal to 0.008 percent of the budget of each Federal agency from any Federal source, including related overhead, that is to be utilized by or on behalf of the laboratories of such agency for [a fiscal year referred to in subparagraph (B)(ii)] *any fiscal year* shall be transferred by such agency to the National Institute of Standards at the beginning of the fiscal year involved. Amounts so transferred shall be provided by the Institute to the Consortium for the purpose of carrying out activities of the Consortium under this subsection.

[(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if—

[(i) the amount so transferred by that agency (as determined under such subparagraph) would exceed $10,000; and

[(ii) such transfer is made with respect to the fiscal year 1987, 1988, 1989, 1990, or 1991.]

(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if the amount so transferred by that agency (as determined under such subparagraph) would exceed $10,000.

* * * * * * *

[(8)(A) The Consortium shall use 5 percent of the funds provided in paragraph (7)(A) to establish demonstration projects in technology transfer. To carry out such projects, the Consortium may arrange for grants or awards to, or enter into agreements with, nonprofit State, local, or private organizations or entities whose primary purposes are to facilitate cooperative research between the Federal laboratories and organizations not associated with the Fed-

eral laboratories, to transfer technology from the Federal laboratories, and to advance State and local economic activity.

[(B) The demonstration projects established under subparagraph (A) shall serve as model programs. Such projects shall be designed to develop programs and mechanisms for technology transfer from the Federal laboratories which may be utilized by the States and which will enhance Federal, State, and local programs for the transfer of technology.

[(C) Application for such grants, awards, or agreements shall be in such form and contain such information as the Consortium or its designee shall specify.

[(D) Any person who receives or utilizes any proceeds of a grant or award made, or agreement entered into, under this paragraph shall keep such records as the Consortium or its designee shall determine are necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition of such proceeds and the total cost of the project in connection with which such proceeds were used.]

* * * * * * *

(i) RESEARCH EQUIPMENT.—The Director of a laboratory, or the head of any Federal agency or department, may give research equipment that is excess to the needs of the laboratory, agency, or department to an educational institution or nonprofit organization for the conduct of technical and scientific education and research activities. Title of ownership shall transfer with a gift under this section.

SEC. 12. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

(a) * * *

* * * * * * *

(d) DEFINITION.—As used in this section—

(1) the term "cooperative research and development agreement" means any agreement between one or more Federal laboratories and one or more non-Federal parties under which the Government, through its laboratories, provides personnel, services, facilities, equipment *intellectual property,* or other resources with or without reimbursement (but not funds to non-Federal parties) and the non-Federal parties provide funds, personnel, services, facilities, equipment, *intellectual property,* or other resources toward the conduct of specified research or development efforts which are consistent with the missions of the laboratory; except that such term does not include a procurement contract or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code;

* * * * * * *

NATIONAL SCIENCE AND TECHNOLOGY POLICY, ORGANIZATION, AND PRIORITIES ACT OF 1976

TITLE I—NATIONAL SCIENCE, ENGINEERING, AND TECHNOLOGY POLICY AND PRIORITIES

* * * * * * *

DECLARATION OF POLICY

SEC. 102. (a) PRINCIPLES.—In view of the foregoing, the Congress declares that the United States shall adhere to a national policy for science and technology which includes the following priciples:

(1) * * *

* * * * * * *

[(6) The recognition that, as changing circumstances require periodic revision and adaptation of title I of this Act, the Federal Government is responsible for identifying and interpreting the changes in those circumstances as they occur, and for effecting subsequent changes in title I as appropriate.]

(6) The development and implementation of long-range, interagency research plans to support policy decisions regarding identified national and international concerns, and for which a sustained and coordinated commitment to improving scientific understanding or technology will be required.

* * * * * * *

TITLE II—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

* * * * * * *

ADDITIONAL FUNCTIONS OF THE DIRECTOR; ADMINISTRATIVE PROVISIONS

SEC. 207. (a) The Director shall, in addition to the other duties and functions set forth in this title—

(1) serve as Chairman of the Federal Coordinating Council for Science, Engineering, and Technology [established under title IV]; and

* * * * * * *

MAJOR SCIENCE AND TECHNOLOGY PROPOSALS

SEC. 209. The Director shall monitor and report annually to Congress on each major science and technology project in which more than one country is participating and which has a total estimated cost greater than $1,000,000,000.

* * * * * * *

TITLE IV—FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

[SEC. 401. (a) There is established the Federal Coordinating Council for Science, Engineering, and Technology (hereinafter referred to as the "Council").

[(b) The Council shall be composed of the Director of the Office of Science and Technology Policy and one representative of each of the following Federal agencies: Department of Agriculture, Department of Commerce, Department of Defense, Department of Health, Education, and Welfare, Department of Housing and Urban Development, Department of the Interior, Department of State, Department of Transportation, Veterans' Administration, National Aeronautics and Space Administration, National Science Foundation, Environmental Protection Agency, and Energy Research and Development Administration. Each such representative shall be an official of policy rank designated by the head of the Federal agency concerned.

[(c) The Director of the Office of Science and Technology Policy shall serve as Chairman of the Council. The Chairman may designate another member of the Council to act temporarily in the Chairman's absence as Chairman.

[(d) The Chairman may (1) request the head of any Federal agency not named in subsection (b) of this section to designate a representative to participate in meetings or parts of meetings of the Council concerned with matters of substantial interest to such agency, and (2) invite other persons to attend meetings of the Council.

[(e) The Council shall consider problems and developments in the fields of science, engineering, and technology and related activities affecting more than one Federal agency, and shall recommend policies and other measures designed to—

[(1) provide more effective planning and administration of Federal scientific, engineering, and technological programs,

[(2) identify research needs including areas requiring additional emphasis,

[(3) achieve more effective utilization of the scientific, engineering, and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication, and

[(4) further international cooperation in science, engineering, and technology.

[(f) The Council shall perform such other related advisory duties as shall be assigned by the President or by the Chairman.

[(g) For the purpose of carrying out the provisions of this section, each Federal agency represented on the Council shall furnish necessary assistance to the Council. Such assistance may include—

[(1) detailing employees to the Council to perform such functions, consistent with the purposes of this section, as the Chairman may assign to them, and

[(2) undertaking, upon request of the Chairman, such special studies for the Council as come within the functions herein assigned.

[(h) For the purpose of conducting studies and making reports as directed by the Chairman, standing subcommittees and panels of the Council may be established. Among such standing subcommittees and panels of the Council shall be the Subcommittee on Food, Agricultural, and Forestry Research. This subommittee shall review Federal research and development programs relevant to domestic and world food and fiber production and distribution, pro-

mote planning and coordination of this research in the Federal Government, and recommend policies and other measures concerning the food and agricultural sciences for the consideration of the Council. The subcommittee shall include, but not be limited to, representatives of each of the following departments or agencies; the Department of Agriculture, the Department of State, the Department of Defense, the Department of the Interior, the Department of Health and Human Services, the National Oceanic and Atmospheric Administration, the Department of Energy, the National Science Foundation, the Environmental Protection Agency, and the Tennessee Valley Authority. The principal representatives of the Department of Agriculture shall serve as the Chairman of the subcommittee.]

MEMBERSHIP AND FUNCTIONS OF COUNCIL

SEC. 401. (a) The Federal Coordinating Council for Science, Engineering, and Technology (hereafter in this Act referred to as the "Council") shall be composed of the Director, who shall be Chairman of the Council, and 1 representative of each of the Federal departments and agencies which the President shall designate. Each such representative shall be an official of policy rank appointed by the head of the Federal department or agency designated.

(b) The Council shall consider problems and developments in the fields of science, engineering, and technology and related activities affecting more than 1 Federal agency, and shall recommend policies and other measures designed to—

(1) provide more effective planning and administration of Federal scientific, engineering, and technological programs;

(2) identify research needs, including areas requiring additional emphasis;

(3)achieve more effective utilization of the scientific, engineering, and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication; and

(4) further international cooperation in science, engineering, and technology.

(c) The Council may be assigned responsibility for developing long-range and coordinated plans for scientific and technical research which involve the participation of more than 2 Federal agencies. Such plans shall—

(1) identify research approaches and priorities which most effectively advance scientific understanding and provide a basis for policy decisions;

(2) provide for effective cooperation and coordination of research among Federal agencies; and

(3) encourage domestic and, as appropriate, international cooperation among government, industry, and university scientists.

(d) The Council shall perform such other related advisory duties as shall be assigned by the President or by the Chairman of the Council.

(e) For the purpose of carrying out the provisions of this section, each Federal agency represented on the Council shall furnish necessary assistance to the Council. Such assistance may include—

(1) detailing employees to the Council to perform such functions, consistent with the purposes of this section, as the Chairman of the Council may assign to them; and

(2) undertaking, upon request of the Chairman, such special studies for the Council as come within the scope of authority of the Council.

(f) For the purpose of developing interagency plans, conducting studies, and making reports as directed by the Chairman, standing committees and working groups of the Council may be established.

TITLE VI—NATIONAL CRITICAL TECHNOLOGIES PANEL

* * * * * * *

BIENNIAL NATIONAL CRITICAL TECHNOLOGIES REPORT

SEC. 603. (a) The panel shall submit to the President a biennial report on national critical technologies. Each such report shall identify those product technologies and process technologies that the panel considers to be national critical technologies. The number of the such technologies identified in any such report may not exceed 30, *but shall include the most economically important emerging civilian technologies during the 10-year period following such report, together with the estimated current and future size of domestic and international markets for products derived from these technologies.* The reports shall be submitted not later than October 1 of even-numbered years.

(b) For purposes of subsection (a), a product or process technology may be considered to be a national critical technology if the panel determines it to be a technology that it is essential for the United States to develop to further the long-term national security [and] *or* economic prosperity of the United States.

* * * * * * *

(d) Each such report shall include—

(1) an identification of the types of research and development needed to close any significant gaps or deficiencies in the technology base of the United States, as compared with the technology bases of major trading partners; and

(2) a list of the technologies and markets targeted by major trading partners for development or capture.

[(d)] *(e)* Not later than 30 days after the date on which a report is submitted to the President under this section, the President shall transmit the report, together with any comments that the President considers appropriate, to Congress.

* * * * * * *

SECTION 212 OF THE NATIONAL TECHNICAL INFORMATION ACT OF 1988

SEC. 212. NATIONAL TECHNICAL INFORMATION SERVICE.

(a) * * *

* * * * * * *

(e) FUNCTIONS.—The Secretary of Commerce, acting through the Service, shall—

(1) * * *

* * * * * * *

(5) implement new methods or media for the dissemination of scientific, technical, and engineering information, *including producing and disseminating information products in electronic format*; and

* * * * * * *

XI. COMMITTEE RECOMMENDATION

A quorum being present, on May 1, 1991, the Committee favorably reported the bill HR 1989 by a vote of 26 for and 5 against.

XII. Additional Views

ADDITIONAL VIEWS OF MR. THORNTON

The Technology Administration (TA) serves as a focal point for U.S. science and technology policy and functions as a catalyst and facilitator to improve American industry's international competitiveness.

The Under Secretary of Commerce and Technology, who heads the TA, is in the best position to facilitate the application and commercialization of innovative technologies. In addition, the Assistant Secretary for Technology Policy should be given strong institutional support in an effort to emphasize technology transfer and promote strategic partnerships and manufacturing consortia.

The United States has been losing its competitive edge in several areas of high technology, and our technological infrastructure has slipped badly in several important fields. I have been calling for a Marshall Plan for America to develop strategies for ourselves as appropriate for our needs as those we employed with such success in rebuilding Europe and Japan after World War II. Encouraging manufacturing within our borders rather than exporting technologies abroad should be part of such a strategy.

Ray Thornton.

ADDITIONAL VIEWS OF MR. WALKER

The real value of the National Institute of Standards Technology is its in-house laboratory research program, the original core mission of NIST dating back to 1901. This core research is directed toward enhancing U.S. competitiveness both nationally and internationally. This is accomplished through three avenues: (1) improved product quality; (2) enhanced reliability and cost-effectiveness of manufacturing; and (3) assistance in the rapid commercialization of technology from new scientific discoveries. The Science Committee in this bill, and the President in his request, give top priority to the core program and recommend about a $30 million increase for a variety of generic competitiveness initiatives in superconductivity, fiber optics, new materials, chemical quality control, advanced manufacturing, semiconductors, computer systems and even earthquake hazards reduction. I note that the Committee endorses the priority of the intramural programs in its preceding Committee views.

Unfortunately, once again the appropriators reject our policy expertise. They, in fact, cut the NIST core program even below a freeze level for 1992, which will require reductions in current staff levels. But this is nothing new. It has been going on ever since "pork-barrelling" was introduced into the competitiveness area in the late 1980's. This year, while there is a real cut in research, there is, at the same time, a 30% overall increase in the new NIST grant programs. This money, taken out of the core program, is then earmarked for several politically targeted projects: the National Textile Center; the Integrated Design and Manufacturing Sciences Program at Iowa State University; and other universities (which contradicts the industry focus of the current NIST program). This puts the interests of the elected over the national good.

The Science Committee must not tolerate this perverion of its priorities. In the three years before the extramural grant programs, NIST's core laboratory research budget was funded at an annual average of 101%. In the four years since grants have been handed out, NIST's internal budget has been cut over $70 million, an average of almost $18 million a year, or 10%. It is time the Science Committee did something about this. Such an opportunity will exist during House floor consideration of the legislation.

A recent history of intramural and extramural funding follows:

NIST

	Core			Grants		
	Request	Funding	Amount	Request	Funding	Amount
1986						
1987	120,001	123,985	+3,984			
1988	123,953	122,000	−1,953			
1989	138,625	139,783	+1,158			
1990	158,039	143,850	−14,189	0	15,150	+15,150
1991	155,609	144,659	−10,950	0	18,950	+18,950
1992	183,408	166,078	−17,330	15,000	49,250	+34,250
	201,840	173,942	−27,898	46,200	63,713	+17,513

BOB WALKER.

XIII. DISSENTING VIEWS REGARDING THE ADDITION OF A LOAN PROGRAM TO H.R. 1989

The Department of Commerce awarded the first 11 Advanced Technology Program (ATP) grants totaling almost $10 million in March of this year. $36 million is to be awarded within the next year, and the Committee on Science, Space and Technology is pushing for even more grant funding in 1992. But with the addition of a competing loan program under the ATP, the program's focus is being undermined before it even gets a chance to work.

The House-passed FY 92 Commerce Appropriations bill provides for a $14 million increase in the external technology development programs of the Department of Commerce. The ATP is one of three such programs. Therefore, ATP funding looks likely to be in the mid-$40 million range next year. If, however, $10 million is held to cover loan liabilities, 1992 funding for ATP grants could actually have to be cut from current levels. This is not the priority of those of us who support the ATP program.

The Administration has repeatedly stated its strenuous opposition to a loan program. In a May 21, 1991, letter to the Committee, Commerce Secretary Robert Mosbacher said, "I appreciate the efforts of your Committee to fashion legislation that responds to several of the concerns we have expressed in the past, but unless the bill is amended on the floor to delete the loan provision, I must recommend to the President that he veto the legislation." While the Administration does accept current ATP policy of supporting industry-led, high-risk, generic and pre-competitive R&D, the proposed loan program would grant loans for "commercial demonstration." The Administration objects that this proposal "improperly channels government funds away from broad technology goals to underwriting particular product development projects—something that can and should be left to private capital markets."

The loan proposal will also drag the ATP program down in stifling bureaucracy. To manage a loan portfolio would require a large staff of professionals (lawyers, accountants, auditors, financial analysts, etc.) that are not now available in the Technology Administration, replacing the technological expertise that is vital to NIST's mission. To establish the required organizational structure to administer a loan program would entail high levels of overhead costs. These costs, like the loans themselves, would also eat away available grant funds. The required work (rule making, procedure development, loan terms and conditions, etc.) would seriously impair the ATP's ability to administer the current program by taking scarce resources away from project management and proposal evaluation.

The Committee has spent over two years of very hard work developing a detailed agreement on this bill. Now, this Committee has a real opportunity to reestablish its relevance. With this legislation, we can reassert our preeminent role in Congress for setting

the program priorities for technology R&D. The only way to accomplish this is with consensus, based on our agreement and with the administration's support. The bill, as recommended by the Subcommittee on Technology and Competitiveness, provides that consensus. We will need bipartisanship within the Congress and by the administration to move this bill to enactment quickly. However, the only effect of adopting a loan program is to make the bill needlessly controversial. It breaks the unified front we have finally achieved. This will delay action and scuttle our effort to influence funding. We are snatching defeat from the jaws of victory.

Commerce Secretary Mosbacher's letter of opposition, dated May 21, 1991, follows.

ROBERT S. WALKER.
F. JAMES SENSENBRENNER, Jr.
SHERWOOD BOEHLERT.
SID MORRISON.
RON PACKARD.
HARRIS W. FAWELL.
D. FRENCH SLAUGHTER.
LAMAR SMITH.
CONSTANCE MORELLA.
DANA ROHRABACHER.
STEVEN SCHIFF.
JOE BARTON.
DICK ZIMMER.
WAYNE T. GILCHREST.

THE SECRETARY OF COMMERCE,
Washington, DC, May 21, 1991.

Hon. GEORGE E. BROWN, Jr.,
Chairman, Committee on Science, Space and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: I am writing to express my grave concerns regarding a particular provision of H.R. 1989, the American Technology Preeminence Act of 1991 ("Technology Act"). This provision, which was added at full Committee markup, would authorize a $100 million technology commercialization loan program to be administered by the National Institute of Standards and Technology (NIST). While I am committed to passage of suitable reauthorization legislation for the department's Technology Administraton, I cannot support a bill which would include this loan program. I appreciate the efforts of your Committee to fashion legislation that responds to several of the concerns we have expressed in the past, but unless the bill is amended on the floor to delete the loan provision, I must recommend to the President that he veto the legislation.

The provisions added at full Committee markup would authorize NIST to administer a program of loans to selected businesses to support specific technology commercialization projects. The program improperly channels government funds away from broad technology goals to underwriting particular product development projects—something that can and should be left to private capital markets. We cannot support putting the Government in the position of competing directly with private banks and venture capital

firms, nor can we support giving specific market advantages to some companies over others for particular commercial products.

The Administration supports high technology through broad-based programs and funding for research which would not otherwise be funded by the private sector. The President's budget for fiscal year 1992 reflects this support by providing substantial funding both for basic scientific research and for generic precompetitive industry-led applied research on high-risk technology projects. Such research could yield long-term benefits across many industries—as indicated, for example, by the willingness of firms to combine research efforts in consortia under the Advanced Technology Program (ATP). Other broad-based Administration programs include our support for mechanisms to facilitate technology transfer from our national laboratories to the private sector and our proposal to make the research and expenditure tax credit permanent.

Limited federal dollars are best spent on such broad-based programs, which could yield greater long-term benefits. A loan program, in contrast, would require a more short-term frame of reference, concentrating as it must on the ability of the recipients to repay and the near-term commercial payoffs of projects. Moreover, the new loan program would compete with NIST's laboratory programs and extramural programs for scarce federal resources, yet much of these resources would be spent on substantial overhead and administrative costs associated with a loan program. It would, for instance, require the Technology Administration to obtain the services of personnel with substantial financial expertise (accountants and financial analysts, for example), unlike the technological expertise that is sufficient to underpin the ATP and NIST's other extramural programs.

During the past year the Technology Administration has worked hard to develop and refine procedures to make the ATP and our other extramural programs worthy of Administration support. We have carefully crafted and considered criteria and procedures to run these programs. Our efforts must be concentrated on making these new programs the best they can be, and not dissipating our effectiveness through additional programs which are contrary to Administration objectives.

Passage of the Technology Act is very important to this Department, since it will reauthorize many important programs of the Technology Administration and make many needed improvements to these programs. As noted, our staffs have already made considerable progress in resolving a number of important issues, and I am hopeful that we can continue to work on other provisions of the bill about which we also have concerns. Of most importance of the successful enactment of this legislation, however, is the deletion of the loan provision at the earliest possible time. Committed as I am to passage of this legislation, I urgently request that efforts be made to amend the bill on the floor to delete the loan provision so that I will not have to recommend that the President veto this legislation.

Sincerely,

ROBERT A. MOSBACHER.

XIV. Exchange of Communications Between the Committee on Science, Space and Technology and the Committee on Energy and Commerce

Committee on Science, Space, and Technology,
Rayburn House Office Building,
Washington, DC, April 25, 1991.

Hon. John Dingell,
Chairman, Committee on Energy and Commerce,
Washington, DC.

Dear John: The Committee on Science, Space, and Technology is scheduled to markup H.R. 1989, the American Technology Preeminence Act, next Wednesday, May 1, 1991, at the full committee level. This legislation is very similar to the version which passed the House of Representatives last July, but which failed to pass the Senate. All changes which were requested last year by your committee remain in the current version. I've attached a copy of the bill as reported by the Subcommittee on Technology and Competitiveness.

I intend to offer two amendments at Full Committee which would make a number of small but important changes in current law. The amendments may involve issues over which your Committee shares jurisdiction with the Committee on Science, Space, and Technology. My hope is that our two Committees can work cooperatively to resolve any jurisdictional issues created by these amendments without a sequential referral so that this bill can be brought expeditiously to the floor. I am particularly eager to bring the bill to the floor before the appropriations bills begin to receive priority consideration. Copies of the amendments are attached.

The first amendment is an attempt to conform the Fair Packaging and Labeling Act to the policy enunciated in the Trade Bill that the SI metric system is the preferred system of measurement in the United States. As you know, provisions dealing with the metric system of measurement are expressly within the Science Committee's jurisdiction, but the Fair Packaging and Labeling Act originated within your committee. My amendment would change the requirement that all labels include weight in the avoir dupois system and instead require metric mass while making avoir dupois optional. This would conform U.S. packaging to the measurement system used by all our trading partners and required on exports to most of them. The need to package one way for export and another for domestic consumption would be eliminated. The substantive portions of the Fair Packaging and Labeling Act are not affected by the amendment.

My second amendment deals with the deposit of documents in the National Technical Information Service. We have received testimony and complaints from librarians that they spend much time

searching the government for scientific and technical documents which belong in the public domain but which are not available through NTIS. This simple amendment, by requiring the deposit of these documents in NTIS, would enable NTIS to become the one-stop clearinghouse for technical documents that our committees have envisioned over the years.

I welcome your comments on both amendments. I, of course, am willing to include an exchange of letters in our committee report protecting your Committee's jurisdictional interests regarding the final version of these amendments if you so desire.

I look forward to hearing from you and working with you on this matter.

Sincerely,

GEORGE E. BROWN, Jr.,
Chairman.

COMMITTEE ON ENERGY AND COMMERCE,
RAYBURN HOUSE OFFICE BUILDING,
Washington, DC, June 19, 1991.

Hon. GEORGE E. BROWN, Jr.,
Chairman, Committee on Science, Space and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Since receiving your letter of April 25, 1991 concerning H.R. 1989, the "American Technology Preeminence Act," our Committee has informally discussed the provisions with several of this Committee's affected subcommittee chairmen and their staff. I understand that our staff has discussed these matters with your staff with a view to resolving them without sequential referral of the bill to our Committee.

As you will recall, during the last Congress this legislation had a high priority with the leadership and was considered informally by our Committee. We did not assert a request for a sequential referral because of the desire of the leadership to move the bill expeditiously. Nevertheless, as your letter recognizes, the bill does affect matters within our Committee's jurisdiction. Enclosed is a summary of the areas of concern to our Committee and suggestions for resolution on an informal basis. I understand that they reflect discussions with your staff and that you are in general agreement. If this is satisfactory to you, this Committee would not request a sequential referral of this bill at this time.

With best wishes.

Sincerely,

JOHN D. DINGELL, *Chairman.*

Enclosure.

AREAS OF CONCERN TO THE COMMITTEE ON ENERGY AND COMMERCE AND SUGGESTED RESOLUTION REGARDING H.R. 1989

Section 104—National Institute of Standards and Technology (NIST)

Section 104(d) of the bill provides that with two unrelated exceptions, this legislation contains that complete authorizations of appropriations for the NIST for Fiscal year 1992. As indicated to your

staff, last Congress at the strong urging of the Chairman of the Rules Committee, Congressman Moakley, Congress passed the "Fire Safety Cigarette Act of 1990" (FSCA) which requires the Consumer Product Safety Commission to continue such research activities in reducing such cigarette ignition propensity. The FSCA provides that some fire safety research activities are to be conducted, as the Commission requests, by the Center for Fire Research at NIST. The 1990 law contains no specific authorization for appropriations since the Commission's authority was deemed adequate. The legislative history makes it clear that the Commission is to transfer to the NIST, as necessary, funds for Fire Research. In FY 1991 the "VA-Hud Appropriations" bill provided $600,000 for this activity. Additional funding will be provided in FY 1992.

As you can see, Section 104(d) indicates that funding, such as that mentioned for the FSCA, is not covered because it is not included in this legislation. We do not think that is the intent but the subsection raises that possible bar. We understand that there may be other situations where funding is tranferred to the NIST for research work. Accordingly, we recommend that section 104(d) be deleted because it is unnecessary and inconsistent with other provisions of law or at the very least modified to make it clear that NIST is not precluded from conducting work for other agencies through the mechanism of transferred funds, such as we have just described.

Section 108—Metric Amendment

This section amends the Fair Packaging and Labelling Act to require labelling on quantity in the metric system instead of the current avoirdupois system. As you know, the Fair Packaging and Labelling Act is a statute within the sole jurisdiction of this Committee. We have no substantive objection to this amendment, however, we request that the Committee recognize that this is an exception and that the Act being amended is within our jurisdiction.

Section 109—Transfer of Federal Scientific Information

This section directs all federal agencies to transfer to the National Technical Information Service unclassified scientific, technical, and engineering information which results from federally funded research and development activities for use by the private sector. As we understand it, it only applies to information that is publicly available under applicable provisions of the law.

As you know, the NTIS is an agency over which this Committee shares jurisdiction with your Committee. We have no objection to this amendment, although we are not certain how it will be enforced. In any event, we request that your Committee recognize the jurisdiction of our Committee.

Title IV and Title V

Title IV establishes the National Commission on Reducing Capitol Costs Emerging Technology. The purpose of the Commission is to develop recommendations "to increase the competitiveness of the U.S. industry by ensuring investments in research, the development of new process and product technologies, and the production of those technologies." In addition, section 507 establishes a Nation-

al Quality Council which among other things must establish goals and priorities for quality performance in business education, government and all other sectors of the nation. Finally, Section 509 directs the Secretary of Commerce to enter into a contract with the National Research Council to address a number of issues.

We view these various sections as affecting matters within the jurisdiction of this Committee and while we have no objection to these provisions we want to make it clear that if we were pursuing a sequential referral we would view these as within our jurisdiction. We request that your Committee recognize this jurisdiction of our Committee.

Section 501—High Resolution Information System Advisory Board

This section would establish within the Office of Science and Technology Policy a High Resolution Information Systems Advisory Board "to monitor, and as appropriate, foster the development of the U.S.-based high-resolution information systems industries." The definition of the term "high resolution information systems" which appears in this section and in section 201 of the bill is quite broad and affects matters within the communications jurisdiction of this Committee. It raises questions of policy that greatly concern us. We are not certain that we fully support the idea of establishing such an advisory board within the Office of Science and Technology Policy. In our view, this section addresses matters that are not related to research and development but rather are involved with financing and commercial activities, as well as international activities. Those are matters within this Committee's jurisdiction and possibly other Committees.

Our preference would be to delete this section and the corresponding definition in section 201 and the critical industries portion of section 504 because they are not solely matters regarding research and development. However, in order to achieve accommodation, as far as this Committee is concerned, we would not object to these provisions if the following amendments are adopted:

Amend subsection (i)(1) of section 201(c)(8) to read as follows:

> (b) the term "high resolution information systems" means equipment and techniques required to create, store, recover and play back high-resolution images and accompanying sound.

Amend paragraph (1) of section 501(c), by striking "become competitive, including" and all that follows through the end of such paragraph and insert "become competitive;".

Amend subsection (d)(6) of section 501 to read as follows:

> (6) The Board shall submit a report of its activities once every year after its establishment to the President, the Committees on Science and Technology and Energy and Commerce of the House of Representatives, and the Committee on Commerce, Science, and Transportation of the Senate.

Amend section 501 by inserting after subsection (d) the following new subsection (and redesignate the succeeding subsection accordingly):

(e) LIMITATION ON FUNCTIONS.—Nothing in this section or any other provision of this Act shall be construed—

(1) to authorize the Advisory Board to investigate or provide advice or guidance with respect to standards or other regulations or policies related to the transmission, delivery, or receipt of broadcast television or cable television signals subject to regulation by the Federal Communications Commission under the Communications Act of 1934 (47 U.S.C. 151 et seq.); or

(2) to limit, modify, or affect in any manner the authorities, functions, or responsibilities of the Federal Communications Commission or the National Telecommunications and Information Administration.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
RAYBURN HOUSE OFFICE BUILDING,
Washington, DC, June 25, 1991.

Hon. JOHN D. DINGELL,
Chairman, Committee on Energy and Commerce,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter of June 19, 1991 and for your willingness to consider H.R. 1989 informally and in an expeditious manner. The Committee on Science, Space, and Technology appreciates your careful consideration of the bill and does not intend to limit Committee on Energy and Commerce jurisdiction by reporting this legislation.

Your comments on Section 104(d) are well taken. The National Institute of Standards and Technology (NIST) receives as much as one-half of its funding as payment for work done for others and most of these customers are Federal agencies. Section 104(d) is intended only to limit authorizations for appropriations made directly to NIST. Report language to accompany 104(d) is clear on the section's scope. However, I would be happy to offer clarifying bill language during floor consideration of this legislation.

As I explained in my letter of April 25, the Committee on Science, Space, and Technology's rule includes jurisdiction over measurement including the metric system. Our interest in the Fair Packaging and Labelling Act goes no further and that Act is clearly within the jurisdiction of your committee. The Committee recognizes that Section 109 affects the Clearinghouse function of the National Technical Information Service (NTIS) which originated legislatively in a 1950 statute initiated by your committee. We recognize that the Parliamentarian would have granted you a sequential referral on this section had one been requested.

As you point out, certain of the studies and commissions contained in Titles IV and V are far-ranging and are likely to involve studies of matters involving interstate and foreign commerce which fall within your committee's jurisdiction as well as matters involving our interests in research, technology development and utilization, and measurement.

Section 501 creates a High Resolution Information Systems Board within the Office of Science and Technology Policy to look at issues relating to this critical emerging technology. We expect that

communications, computing, television, entertainment, home security, and many other functions will all increasingly be performed by the same equipment in the relatively near future. Thus, while the Board is given a broad mandate to look at high resolution information technologies in the expectation that its work will prove useful to both of our committees, I accept your proposal to add language which would preclude the Board from any involvement with respect to communication transmission standards under the regulatory jurisdiction of the Federal Communications Commission.

I thank you for your cooperation in these matters and look forward to working closely with you on matters of mutual interest throughout the 102nd Congress.

Sincerely,

GEORGE E. BROWN, Jr.,
Chairman.

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